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Improved Situation Will Be Helped When Oil Buyers Reach Common Basis on Crude Prices

By JAMES McINTYRE

WITH 37 degrees as the average gravity of Mid-Continent crude oil purchased on a gravity basis, the industry in Kansas, Oklahoma, Texas, North Louisiana and Arkansas was faced with four sets of crude oil prices as this calendar week opened. Thirty-seven gravity crude was quoted at 79 cents, 69 cents, 56 cents and 46 cents per barrel, and these prices had prevailed for several days. The Continental Oil Co., which initiated the price increases by posting a 33-cent increase in all grades of oil in Kansas, Oklahoma and North Texas, finding that the response was not general, sought to break the price deadlock by posting a new set of prices which were 23 cents in advance of the old schedule, and which met the new prices of the Magnolia Petroleum Co. This scale of prices ranged from 51 cents for oil below 29 gravity up to 75 cents for oil of 40 gravity or higher.

Production increased 21,840 bbls. per day in the United States in the past week, Texas increasing its crude oil output 41,461 barrels per day; Kansas, 15,020 bbls. per day, and California 10,250 bbls. per day. The East Texas field increased its crude output 31,210 bbls. and the Texas and Louisiana Gulf Coastal fields 5,153 barrels. Oklahoma, on the other hand, lowered its crude oil production 40,235 barrels per day, and is closer to its allowable than other large producing states.

The refined oil market is much improved. Prices are higher and the demand is encouragingly greater. The feeling among refiners and marketers is that this favorable trend will continue and those who could be seen expressed the opinion that the situation could be helped if crude oil prices are put on a common basis somewhere between the lowest and the highest of the recently made schedules. The demand for crude is good in Kansas and Oklahoma and there is little, if any, talk of illegal production in those states, but the situation in East Texas continues to be menacing. Strenuous efforts are being made to put on a Federal-State campaign against the bootlegging element in East Texas. They must be broken up before the petroleum industry can enjoy the reasonable degree of prosperity which the government aims for in its new deal.

Field reports in the past week indicate the possibility of new pools opened or extensions made in Western Oklahoma, South Texas and Central Western Kansas. News of interest to old timers in the industry was conveyed in the announcement that the Ohio Oil Co. had withdrawn from the old northeastern Indiana field arount Montpelier, an area which once made history.

Crude Oil Production in the United States

Estimated daily average production for the week ending July 8, and a comparison with the previous week and a year ago, follows:

	July 8	July 1	July 9, 1932
Oklahoma—			
Oklahoma City	253,980	302,375	99,415
Seminole-St. Louis	112,253	105,285	112,490
Remainder of State	207,372	206,180	211,625
Total Oklahoma	573,605	613,840	423,530
East Texas—			
Lathrop	304,010	290,470	126,486
Kilgore	223,425	214,215	108,243
Joiner	205,115	196,655	106,179
Total East Texas	732,550	701,340	335,908
West Texas	162,204	157,495	178,612
North Central Texas	71,045	68,802	74,936
Texas Panhandle	49,053	50,146	51,257
East Central Texas	58,438	58,288	56,561
Gulf Coast—Texas	187,112	182,611	113,325
Southwesrt Texas	52,396	52,655	59,011
Total State of Texas	1,312,798	1,271,337	869,610
Kansas	131,600	116,580	95,315
North Louisiana	24,230	25,240	28,705
Gulf Coast—Louisiana	42,595	41,943	29,723
Arkansas	29,822	30,230	34,125
Eastern Fields	110,000	112,000	119,000
Rocky Mountain area	73,660	75,550	82,191
California—			
Santa Fe Springs	54,250	53,750	59,000
Long Beach	74,750	73,500	69,000
Playa Del Rey	11,500	11,500	14,750
Elwood	13,750	13,500	14,000
Kettleman Hills	67,500	50,750	59,500
Remainder of State	263,000	262,500	251,750
Total California	484,750	474,500	468,000
Total United States	2,783,060	2,761,220	2,150,199

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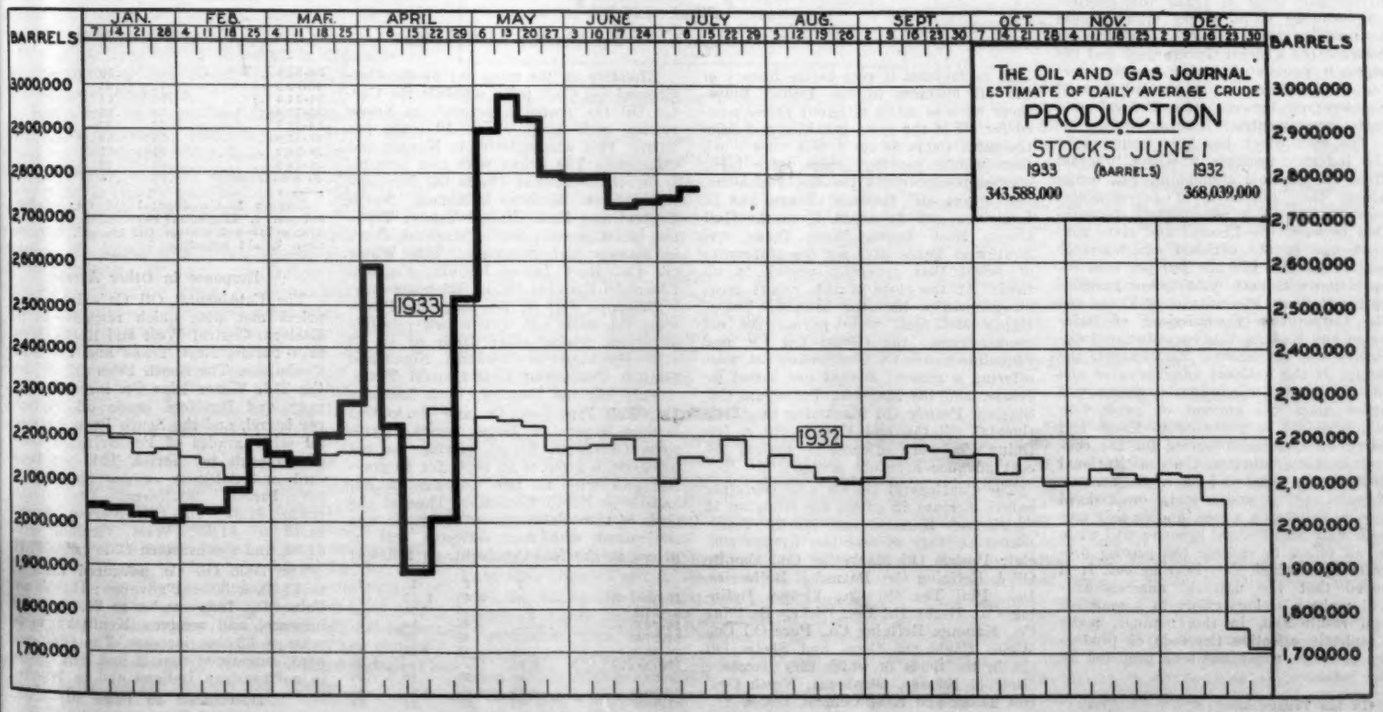


Chairman Ames Urges Federal-State Agreements to Help Work Under Industrial Recovery Act

By C. B. AMES
Chairman of the Board, Texas Co.*

The National Industrial Recovery Act is a part of the administration's plan to facilitate recovery by increasing employment, maintaining or inaugurating fair wages and increasing commodity prices. In respect of these matters the Government has the right to expect the co-operation of the petroleum industry, and the great weight of the industry both in numbers and in volume is making a serious effort to co-operate. During the depression the industry has maintained volume, employment and wages at a relatively high ratio, but prices have been abnormally low.

The success of the recovery act as applied to the petroleum industry will depend largely on its administration. If it is administered wisely, if there is co-operation between the Federal Government, the state administrative agencies and the industry, the objectives of the act can be achieved. The Constitution of the United States, however, is still in effect. There are still rights of the states which cannot be ignored, and there are limitations of Federal power which must be recognized. The primary cause of the depression within the industry during the past 2½ years has been the overproducing capacity of our oil wells. This is still the heart of the difficulty and it must be dealt with in a practical manner.

Constitutional Question Arises

Production has heretofore been regarded as a subject within the control of the respective states. It has not been regarded as a part of interstate commerce but as purely an intrastate matter. The emergency has not changed the Constitution. If the national administration undertakes direct control of production a grave constitutional question at once arises. If the national administration merely approves agreements within the industry relating to production, the question still arises as to whether these agreements violate the state antitrust laws, particularly those of Texas—the greatest oil-producing state. Every effort should be made to avoid constitutional conflict between the Federal Government and the states in respect of this fundamental factor. This conflict can be avoided through co-operation between the Federal and state governments.

The code which has been prepared by the industry presents a sound program from an economic standpoint, but, recognizing the limitations of governmental power involved, it recommends co-operation between the Federal and state governments. If the national administrator will invite and procure 100 per cent co-operation with such enforcement agencies as the Railroad Commission of Texas and the Corporation Commissions of Oklahoma and Kansas, this constitutional difficulty will be removed. To illustrate the point: If the national administrator and the Railroad Commission of Texas will agree upon the amount of production which should be allocated to Texas and adopt an identical program for the control of this production, the constitutional difficulty is removed because the control, if valid either under state or Federal law, is valid as a whole, and in this way both state and Federal agencies will unite in an effort to enforce the precise program upon which they have agreed. It is hoped that the national administrator will make a serious effort to accomplish this result and, in this manner, make completely effective the code of producing practices which has been prepared by the industry.

Marketing, from the legal standpoint, is a simpler matter because it is, in the main, interstate commerce, and under the control of the Federal Government. The small part which is intrastate must conform to the general rules and practices provided for interstate commerce or else the power of the Federal Government to regulate interstate commerce is frustrated. That this entire subject is in the control of Congress seems to be abundantly decided by numerous decisions of the Supreme Court of the United States, of which the Shreveport rate case is an example.

The industry is concerned by the emphasis which is being placed upon employment and wages by the national administrator in codes dealing with other industries heretofore presented. The recovery act emphasizes collective bargaining but the administrator apparently is urging industries which present codes to agree with him on matters affecting labor instead of agreeing with the employes of such industries. The recovery act provides that "The President shall, so far as practicable, afford every opportunity to employers and employes in any trade or industry or subdivision thereof . . . to establish by mutual agreement, the standards as to the maximum hours of labor, minimum rates of pay, and such other conditions of employment as may be necessary in such trade or industry or subdivision thereof to effectuate the policy of this title." It also provides that "where no such mutual agreement has been approved by the President he may investigate the labor practices, policies, wages, hours of labor, and condition of employment in such trade or industry or subdivision thereof, and upon the basis of such investigations, and after such hearings as the President finds advisable, he is authorized to prescribe a limited code of fair competition . . ." relating to labor. Before employers and employes have had an opportunity to reach an agreement by collective bargaining, it is obviously inconsistent with the act for the national administrator to insist that an industry accept prescribed conditions relating to labor. Such a course is inconsistent with mutual agreements between employers and employes relating these subjects. Rules prescribed by the administrator in this manner may be unsatisfactory both to employers and employes and this may prevent, instead of promote, collective bargaining.

Ask Increased Wage Scales

Recently, in speaking to the Chamber of Commerce of the United States, the President said: "I, therefore, ask you, who represent in all probability the majority of employers of the nation, to refrain from further reduction in the wages of your employes and I ask you also to increase your wage scales in conformity with and simultaneously with the rise of the level of commodity prices in so far as this lies within your power." Having in mind this address of the President, the code proposed by the petroleum industry contains this provision:

"Wage schedules should not be reduced, but both employment and wages should be increased as soon as business conditions permit."

This pledge of the industry should be satisfactory to the national administrator and, before further conditions are imposed, employers and employes within the industry or within a subdivision thereof, should be given ample opportunity by mutual agreement between representatives of management and representatives of labor to agree upon wages, hours, and conditions of employment.

The President at various times has emphasized the thought that industry should initiate its plans, that it is not the purpose of the Government to dominate or dictate, but to aid. The petroleum industry is prepared for full and fair co-operation. For several years, co-operative efforts with the oil-producing states relating to production have been made, and co-operative marketing efforts under a code approved by the Federal Trade Commission have been in effect. Partial success and partial failure of these efforts furnish guides to the wise course at this time. It will be exceedingly unfortunate if the lessons derived from these efforts are not regarded. If, on the basis of this experience, the national administrator and the state enforcement authorities in conjunction with the industry unite on a sound program, the petroleum industry can respond almost overnight to the declared purposes of the President and of Congress in the National Industrial Recovery Act.

*In the Texaco Star.

Continental Oil Co. Leads in an Effort to Find Satisfactory Compromise Price for Crude

By JAMES McINTYRE

It is doubtful if ever in the history of the oil business in the United States there were so many different prices posted for oil of the same gravities and from the same fields as early this week when four widely varying prices were being offered producers in Kansas, Oklahoma, the "sweet oil" fields of Texas, and in Louisiana and Arkansas. Even the Gulf Coast, East Texas, West Texas and Southwest Texas have not the uniformity of prices that generally prevail in oil fields. At the close of this report great oil companies like the Humble, Texas, Gypsy and Gulf were paying the old crude prices; the Carter Oil Co. and Stanolind Crude Oil Purchasing Co. were offering a general 10-cent per barrel increase, and the Magnolia Petroleum Co., Sinclair Prairie Oil Marketing Co., Continental Oil Co. and Empire Oil & Refining Co. were offering a general 23-cent advance over old prices.

The Continental Oil Co.'s 33 cents per barrel increase in prices for crude oil in Oklahoma, Kansas and North Texas, posted on July 6, was met by the Sinclair Prairie Oil Marketing Co., Empire Oil & Refining Co., Barnsdall Refineries, Inc., Phil Tex Oil Co., Vickers Refining Co., Derby Oil Co., Dickey Refining Co., Kanotex Refining Co., Pure Oil Co., White Eagle Oil Corp. and Skelly Oil Co. in the fields in which they purchase crude in Kansas, Oklahoma, North Central Texas and East Central Texas.

Effective on the same day as the Continental Oil Co.'s price schedule the Carter Oil Co. posted a schedule of prices raising each grade of oil 10 cents per barrel. This was effective in Kansas and Oklahoma. The prices were met promptly by the Stanolind Crude Oil Purchasing Co. in Kansas, Oklahoma, North Central and East Central Texas; Texas Co. in Oklahoma; Shell Petroleum Corp. in Kansas and Oklahoma; Tide Water Oil Co., Rock Island Refining Co. and Champlin Refining Co. in Oklahoma only.

Effective July 7, the Magnolia Petroleum Co. came out with a new schedule of prices raising every grade of oil 23 cents per barrel in Oklahoma, North and Central Texas and East Central Texas.

This left the Humble Oil & Refining Co., Gulf Pipe Line Co. and Texas Co., leading buyers in Texas, together with some Oklahoma buyers, paying the old prices with a top of 52 cents for 40 gravity, and with no new postings in Arkansas or North Louisiana. Thus at the close of the calendar week the trade was confronted with four different sets of prices in the Mid-Continent, as follows:

	1	2	3	4
Below 25	...	$.43	$.30	...
25-25.9	...	.45	.32	...
26-26.9	...	.47	.34	...
27-27.9	...	.49	.36	...
28-28.9	...	.51	.38	...
Below 29	$.61	...	...	$.38
29-29.9	.63	.53	.40	.30
30-30.9	.65	.55	.42	.32
31-31.9	.67	.57	.44	.34
32-32.9	.69	.59	.46	.36
33-33.9	.71	.61	.48	.38
34-34.9	.73	.63	.50	.40
35-35.9	.75	.65	.52	.42
36-36.9	.77	.67	.54	.44
37-37.9	.79	.69	.56	.46
38-38.9	.81	.71	.58	.48
39-39.9	.83	.73	.60	.50
40 and over	.85	.75	.62	.52

Column 1, Continental Oil Co. schedule; column 2, Magnolia Petroleum Co. schedule; column 3, Carter Oil Co. schedule; column 4, old schedule.

Response in Other Areas

The Continental Oil Co.'s increase in prices met with quick response in the Eastern, Central West and Rocky Mountain Fields, East Texas and the Texas Panhandle, The South Penn Oil Co. and the Tide Water Pipe Co. increased Allegany and Bradford crude oil 13 cents per barrel, and the South Penn increased all other grades of Pennsylvania Grade oil 10 cents per barrel. This put Bradford and Allegany crudes up to $1.70 per barrel; Southwest Pennsylvania crude, $1.37; Oil City-Warren district, $1.49 to $1.62; West Virginia crude $1.32, and southeastern Ohio crude $1.17.

The Ohio Oil Co. advanced Lima oil to $1.05, a 30-cent advance; Illinois and Princeton, Ind., crudes to $1, a 33-cent increase, and western Kentucky to 95 cents, a 33-cent increase. The Ohio company announced that it had quit posting in northeastern Indiana and in Wooster.

(Continued on Page 30)

A. I. M. E. Stabilization Forum, Article No. 7; Prime Requisites for a Proration System

By JAMES O. LEWIS*

Since proration was started a few years ago, many plans have been proposed and considerable differences of opinion have developed regarding them. That such differences should arise is not surprising considering the newness of the problem and the self interest involved. Nor are these conflicts of opinion wholely based on the engineering features for many of them originate in questions of property rights, of conservation, community interests, and indeed of the whole objectives of proration. It is believed the differences between the engineers have arisen mostly from confusion regarding these rights and objectives—they have not known what mark they were expected to shoot at.

There is needed a critical examination of all proration systems detached from specific questions of self interest. The various proposals should be systematically analyzed and compared and the merits and demerits of each made a matter of record. Discussion should be narrowed down by eliminating in turn those that are found to be inherently wrong and inadequate to the end that in time, the engineering body can come to a conclusion as to what a proration plan should embody and what plan would best meet the requirements.

First Step

The first step in such a critical examination should be to set up the standards by which the merits of a proration plan are to be measured. What should be the objectives of proration, the legal bases of equities, the nature of the proof that will be needed for enforcement, the practical difficulties that must be met in application? It is the primary purpose of this article to discuss these standards as it is believed discussion of proration methods will be of little use until it is agreed what a proration system should embody.

But when these standards are considered, it is at once realized that in large part they are not fixed and definite but will be determined by future legislation, by court decisions, by experience, and by progress of engineering knowledge. Some of the standards will change from time to time and from place to place and they cannot all be exactly predetermined. However, certain standards can be fixed at this time closely and for the others, agreement may be reached as to what is desirable so that the industry can direct its future course toward definite objectives.

It is likewise to be realized that these standards concern the engineer only in part. First, there should be considered what is in the best interests of the industry and the country as a whole, secondly, what is legally possible, and desirable, thirdly, what is sound and feasible from an engineering standpoint, and, finally, what is practicable in application. To quote from Dean Roscoe Pound's letter in Article No. 3, " . . . the subject is one requiring consideration from a mechanical an economic, a political, and a legal standpoint." The engineer's problems are thus premised upon decisions beyond his province, but on the other hand, the legal and public interest questions can only be settled in the light of what the engineer determines is practicable. We thus have an interplay of variables that must be worked out conjointly.

Objectives of Proration

In order to provide premises for considering the engineering phases of proration, assumptions must be made as to the objectives of proration and the legal bases of property rights. These assumptions represent what the writer believes to be the best and most forward looking opinions on the subject. They are not what are actually in being at this time but are what may be considered as practicable ideals of what they should be. They should be open for discussion by those qualified to speak just as much as the engineering phases.

*Consulting engineer, Tulsa.

In considering the objectives of a proration plan, it must be kept in mind that curtailment is not the only object and not even the primary object. Proration or ratable takings means withdrawals from the common source of supply according to some accepted standards of equities. Furthermore there are rights other than individual equities that must be considered. The tendency is more and more to stress correlative rights and public interest expressed in terms of conservation. We may anticipate that as time goes on that for what we now term proration, there will come a plan for orderly development and production in the interests of all concerned.

Control Is First Consideration

Vast sums of money constantly are being spent by government and industry to discover new oil pools and to speed up recovery methods, but astonishingly little thought has been given to controlling these floods of oil when they are discovered. The capture theory of oil ownership interferes with the free operation of the law of supply and demand and makes this age-old method of control ineffective. Arbitrary proration of production is, therefore, inevitable under the American competitive system of oil field development, but no satisfactory proration system has yet been devised. Flood control is inevitable under these circumstances, but there are men in the oil industry who still contend the ills of the industry are due to application of the flood control or proration system rather than to the inadequacy of the system applied.

At our request James O. Lewis has again favored us with an article for this forum in which he outlines requisites for a proration system. We believe the ills of the industry cannot be corrected until the industry gives more serious consideration to methods of control such as are discussed by Mr. Lewis and less to methods of speeding up discovery of the reserves that remain. We offer Mr. Lewis' analysis as a distinct contribution to the A.I.M.E. forum discussion.

(Signed) EARL OLIVER.

It may be assumed that public interest will demand that our public resources be not unnecessarily wasted and that the consumer be given as cheap and abundant a supply of oil and gas as our natural resources permit. The community or correlative interest in each pool will not be identical to public interest as it will be interested primarily in the sum total of profits to be derived from each pool rather than the highest possible recovery and utilization. For the individual, the primary interest will be the greatest profits from his particular tract regardless of the total recovery or total profits from the pool.

Three Rights

Of the three rights to be considered, the writer understands public interest is paramount before the law and individual equity last, wherever the three come into conflict. But it is the principle of our government not to infringe individual rights except where public good demands it and then usually the individual is compensated. We cannot know the relative weight that will be given in future legislation and future court decisions to the different rights in oil and gas and for this reason a proration plan should measure the individual equities and the extent to which they are infringed when public interest demands.

Though the present legal basis for the equities of oil and gas are in most states the so-called capture rule, the thought of the time is toward ownership in place or at least to restricting capture to the oil and gas underlying each surface ownership. It is believed that the majority in the oil industry believes this is the just basis of property rights in oil and gas and that it is distinctly in the public interest that it come about. It also appears the opinion of the majority of legal authorities on oil and gas that this principle can be reached through legislation or by court decisions so soon as it can be shown to be enforceable and in the public interest. It therefore appears justifiable to make one of the standards for prorating that the oil and gas production of a pool be allocated among the surface owners so that each may ultimately withdraw from the common supply amounts of oil and gas equal to the recoverable oil and gas underlying his property.

Individual Equities

It is to be understood, however, that individual equities may be infringed in the interests of the common good or in the interests of conservation. It is unpredictable to what extent it may be found necessary for intrusion of these interests, but in any event it is highly desirable that it be known how much each individual may have lost by such intrusion and how much any others may have gained. It may reasonably be assured that if such gains and losses become provable, that some compensation will be allowed. This is desirable for it is in the interest of public good to do justice among individuals and there will be greater will toward serving public good if the individual is dealt with fairly, Experience has shown always that it is desirable to reward efficiency and conservation and so far as practicable, to make private interest and public interest to run parallel. The proration plan should therefore be designed to encourage and reward efficiency and to provide information for effecting conservation.

To meet these requirements it will not be sufficient to prorate in proportion to the original oil and gas contents under each property. Only that portion of the contents that can be brought to possession at the surface is of value to the producer or to the public. The percentage of the content that is recoverable is by no means uniform among all properties in a pool, nor is it fixed for any one property for the percentage of recoverability depends not alone upon natural conditions but is influenced largely by the manner of development and operation. The recoverable reserve is therefore not a fixed but a changing quantity. Changes in equipment, in manner of operation on the property itself, and changes on adjacent properties, all will influence the recoverable reserves. Experience and technical literature are full of illustrations that management influences recovery is the basis for conservation and assertion of correlative rights. To prorate upon contents alone would not be in accordance with relative values nor would it reward merit and induce conservation.

Allotting Production

Nor will allotting the production of a pool in proportion to the original estimated recoverable reserves be fully adequate. As has been pointed out, the percentage extraction is not originally fixed solely by natural conditions, but will vary from time to time in accordance to the changing efficiency of operation. It is necessary in justice to have a system that adjusts itself to changes in efficiency and likewise in the public interest to encourage and reward efficiency.

Also it will often be insufficient to allot current production in exact proportion to recoverable reserves for that implies all properties will have an equal life in which to produce their reserves. This is not the case for there are many instances of encroaching water or gas caps that will greatly

shorten the lives of certain properties in the pool. It will therefore be necessary to allow such properties to produce their oil at a correspondingly faster rate if they are to obtain all of their recoverable oil within the productive life of their wells.

Because of changes in efficiency of extraction, and because of the impossibility of eliminating error, a proration system should include periodic checks and corrections and in principle should tend to compensate errors and allow no chance for cumulative errors. If it is known by all that any of the errors, that unavoidably will creep in, will later be compensated for and that in the end the system will work out a close approximation of justice, it may be expected that all concerned will be more tolerant of any temporary injustices that may be thought to occur from time to time.

Changes Foreseen

If our oil and gas fields are to be operated more in the interests of the public and of the community, than in the past, it will be necessary to direct oil and gas movements underground without regard to property lines so that the greatest efficiency in recovery and utilization can be obtained. To the extent that public interest gains ascendency, will it be necessary to infringe private property rights whether held under the legal theory of capture or ownership in place. Public interests and correlative rights inevitably will tend toward unit operation, but how fast and how far that tendency will advance, no one can say. It is likely that we shall have in the next few years, changes in laws, regulations, and court decisions with increasing emphasis on public interest and correlative rights. It will be necessary to have a proration system that will adjust itself to these changing rights and which will also fit itself to whatever manner of operation is found to be best suited for each pool as a whole.

Furthermore, if infringement of private rights are to be recognized and compensated, it will be necessary to have some workable basis for estimating the loss from certain properties and the gain to others. The writer believes that both justice and public interests demand that the sacrifice of individuals to the good of the whole be recognized, in order to avoid the opposition of the injured, which could go far to wreck the plans for good.

The formula for a proration system should avoid factors resting upon opinion. The factors should, so far as possible, rest upon readily obtained and definite facts that can be checked and proved to every interested party. So far as possible, a proration system should be automatically enforcing, require the fewest exceptions, special dispensations or needs for adjudication by the enforcement officials. If it would tend to check and correct proration evasions that would be highly desirable. The system should be as simple as possible, as cheap in enforcement as possible and to the greatest extent possible enforceable by the operators themselves. The principle of the system should be applicable to all conditions found in our oil and gas fields with the fewest possible variations in applications to meet local conditions. It should be applicable to loose or tight sand pools, to single or multiple sand pools, to pools with encroaching or nonencroaching water, to pools with or without gas caps, to high or low pressure pools, to sand or lime reservoirs, to heavy or light oils, to repressuring or natural production, or to any other variations that may occur in our oil fields.

Most Essential Requisite

It is apparent that to approach the ideal proration system, the most essential requisite is a practicable means for controlling and measuring underground movements. With such means, proration could make effective the rights to the recoverable oil and gas under each property, would make practical the determination of correlative rights, greatly aid conservation, and make easier the balancing supply with demand. It would likewise be flexible and would adapt itself to adjustments between the three interests in the pool and to variants in laws and changing emphasis affecting these rights. The writer believes these requirements can be closely approached.

There remains to be considered what will be adequate proof to support a proration system when tested out in the courts. As the writer understands it, exact accuracy in establishing equities will not be required in a proration system, nor will it be necessary to establish exact mathematical proof of loss or gain of oil and gas to establish compensation. The best legal opinion appears to hold that if the system is in the public interest, is not arbitrary, and does substantial justice, that the courts will uphold the law supporting such a system. But it will be necessary to show that substantial justice is being done and that if compensation is to be made that damage be measured and valued with reasonable accuracy. The standards for accuracy and nature of proof may perhaps be fairly gauged by considering awards for personal injury and property damage, about which they may be considerable difference in valid opinions, yet these doubts do not preclude the courts fixing and awarding compensation. The engineers will need clean and complete instructions on what will constitute adequate legal proof.

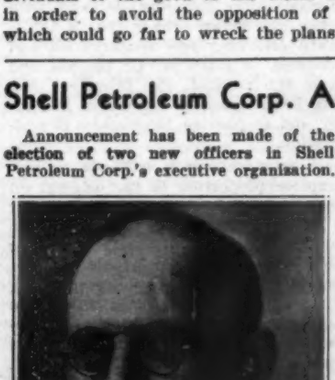
It is highly desirable that the industry decide what it wants as a basis of property rights and what system of proration will best put that theory of property rights into effect. The present period appears unusually favorable for concerting opinion within the industry and for obtaining needed legislation. In considering these questions particular attention must be shown to public interest for it can hardly be expected that the desirable legislation and court decisions can be secured unless it be very clearly shown that it is in the public interest. It may be that the good can only be reached by a series of steps in the direction we are now trending—increasing restrictions on the right of capture through emphasis on conservation, correlative rights, and justice between individuals. If this proves to be the case, it may be found necessary to retain potentials as a feature of proration for as long as the right to capture continues to be the predominant element in our legal theory of property rights.

It would appear that the logical steps for reaching agreement upon a proration system would be first to decide what should be the basis for equities, secondly, what will be needed to further conservation and correlative interests, thirdly what are the requisites for a proration system to reach these objectives and finally what system will come nearest to meeting these requisites.

So far the proration systems used or proposed have used either singly or in combination, the following factors: (1) Well capacities; (2) acreage; (3) number of wells; (4) gas volume or gas-oil ratios; (5) reservoir capacity; (6) recoverable oil and gas reserves, and (7) bottom hole pressures.

Shell Petroleum Corp. Announces Official Changes

Announcement has been made of the election of two new officers in Shell Petroleum Corp.'s executive organization.

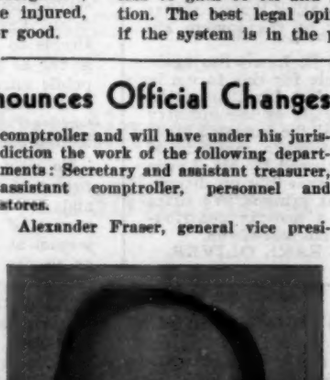


R. P. BASCOM

R. P. Bascom, who has been vice president and general manager of Shell Pipe Line Corp., has been elected a general vice president of Shell Petroleum Corp. and in addition will continue in active charge of pipe line affairs. Mr. Bascom will exercise executive jurisdiction over the petroleum corporation's crude oil purchasing and public relations activities.

J. W. Watson, comptroller, has been elected to the position of treasurer and comptroller and will have under his jurisdiction the work of the following departments: Secretary and assistant treasurer, assistant comptroller, personnel and stores.

Alexander Fraser, general vice president, has been advanced to senior vice president.



J. W. WATSON

Other important staff changes are: R. F. Smith appointed manager, Shell Pipe Line; G. R. Henson, production manager, Texas-Gulf area; W. A. Baker, assistant comptroller, succeeding E. C. Peet, who has been transferred to Shell Oil Co., San Francisco; F. W. Woods, Houston, and F. C. Embshoff, Tulsa, assistant treasurers.

Bureau of Mines Report for May Crude Oil Production and Refined Products

According to reports received by the Bureau of Mines, Department of Commerce, the production of crude petroleum in the United States during May, 1933, totaled 84,747,000 bbls., or a daily average of 2,734,000 bbls. This represents an increase of 557,000 bbls. over the daily average of the previous month and is the highest daily output recorded since October, 1929. The gain in output in May resulted primarily from a material increase in the East Texas Field, where operations had been suspended during most of April. The daily average output for the East Texas Field in May was 890,000 bbls., compared with 349,000 bbls. in April. A number of other fields showed increased production in May, the most important being Conroe, where the daily average output rose from 43,000 bbls. in April to 78,000 bbls. in May and Oklahoma City, which rose from 104,000 to 135,000 bbls. daily. Production in Kansas declined after several months of uninterrupted increases. In general, field activity in the East Texas and Conroe Fields continued at about the same level as in April, with an average of three oil wells completed per day in East Texas and two per day at Conroe, but the average for the rest of the country decreased.

The gain in output was only partially offset by an increase in crude runs so that stocks increased materially. This contrasted with April, when heavy withdrawals were made from stocks. Stocks of refinable crude on May 31 totaled 343,588,000 bbls., or more than 7,000,000 bbls. higher than the total for May 1.

Refined products.—Daily average crude runs continued to rise, being 2,398,000 bbls. against 2,294,000 bbls. in April. Most of the gain was recorded in domestic crude, although runs of foreign crude also rose considerably.

The percentage yield of gasoline rose to 44.2 per cent, a high mark for the year, with the result that the production of motor fuel showed a substantial gain over April. The indicated domestic demand for motor fuel totaled 33,999,000 bbls., or 6 per cent above a year ago, but exports were only 2,129,000 bbls., or less than half of the total for May, 1932. The total demand for May, 1933, was 36,128,000 bbls., or nearly 500,000 bbls. less than a year ago. Stocks of motor fuel on May 31 totaled 59,033,000 bbls., of which nearly 4,000,000 bbls. was natural gasoline. This figure indicates that stocks of motor fuel declined 661,000 bbls. in May, 1933, relatively better showing than in May, 1932, when a small increase was recorded. Statistics of kerosene showed little change, but the domestic demand for gas oil and fuel oil showed the usual seasonal decline. The indicated domestic demand for lubricants continued its rapid increase from the low of January.

The refinery data of this report were compiled from refineries with an aggregate daily recorded crude oil capacity of 3,463,110 bbls. These refineries operated during May at 69 per cent of their capacity, given above, compared with a ratio of 67 per cent for April.

Mid-Continent Refinery Operations During July Are 121 Per Cent of Those One Year Ago

By W. T. ZIEGENHAIN

Mid-Continent refinery crude runs will be 21 per cent higher during July of this year than last year and 9 per cent higher than June. Total scheduled runs for the area call for a daily average of 525,845 bbls., which is an increase of 45,858 bbls. over the average for June. However, the higher July schedule still remains below the average of what might be termed recent normal years namely, the average of the July operations during 1929, 1930 and 1931.

There is a tendency to resume operations in idle plants but the greater share of the increase is the result of operating plants running more crude.

Oklahoma refineries account for about 30 per cent of the increase while substantial increases are shown in East Texas, Kansas, North Central Texas and West Texas. Arkansas records a slight drop in scheduled runs.

Improved Market a Factor

The better market price for refinery products and the better movement of gasoline are the factors which have caused refiners in the Mid-Continent to boost crude runs. Whether the market will support an increase of this magnitude remains to be seen.

However, many of the schedules were established prior to the announcement of the crude price advance and assuming some higher level of uniform crude prices is arrived at within a few days, it is possible that refinery crude runs over the balance of the month will be cut down somewhat.

This latter factor would be especially operative in East Texas where plants are being added and crude runs have reached a new high for the plants located there. Crude has been available in East Texas at prices below that posted by the majority of companies ever since the field became of importance. Until a price of 75 cents was posted by the Sinclair-Prairie Oil Marketing Co. on July 6 crude was offered to local refiners for 40 cents. If there is no better enforcement of proration orders in the East Texas Field now than in the past, there is little likelihood that all producers will demand a full 75 cents a barrel or 60 cents a barrel for the crude, should such a higher price be posted generally. The East Texas refiner thus continues to be favored in the competitive Mid-Continent market. The low octane gasoline available from many East Texas refineries is selling at such a decidedly wide differential in price that it is difficult to attempt to raise the regular and high octane grades elsewhere in order to reflect the improved crude prices.

East Texas Operations

Six plants have been added to the list in East Texas. Their combined capacity brings the total for the field to 103,750 bbls. daily and this represents 10 per cent of the total in the entire Mid-Continent. Also, crude runs in East Texas are being scheduled at a higher rate with respect to capacity than in any other area. July operations have been scheduled at about 80 per cent capacity. The Kansas refiners are next with operations scheduled at about 67 per cent of capacity.

Included in the list of six new East Texas plants are those of the Hioctane Refining Co. of 500 bbls. capacity located at Kilgore, the Gilmer Refining Co. of 500 bbls. capacity at Gilmer, the Modern Refining Co. of 1,500 bbls. capacity at Gladewater, the Trico Refining Co. of 200 bbls. capacity at Turnerstown, Rusk Gasoline Corp. of 200 bbls. capacity at Overton and the Supreme Refining Co. at Gladewater of 300 bbls. capacity.

Mid-Continent Refinery Operations

Scheduled Average Daily Crude Runs

	1929	1930	1931	1932	1933
January	508,550	535,460	478,795	405,910	399,405
February	506,800	519,355	470,125	411,280	407,125
March	514,950	531,500	449,634	401,155	423,445
April	530,530	555,250	497,391	419,750	441,000
May	577,500	574,300	510,540	436,160	470,460
June	583,030	572,250	567,915	440,765	479,987
July	565,800	548,475	588,840	433,255	525,845
August	555,250	526,400	590,545	427,710	.....
September	552,300	498,710	588,105	430,430	.....
October	544,720	518,800	472,190	401,995	.....
November	545,473	506,700	480,440	408,180	.....
December	540,630	478,360	456,525	416,275	.....

Operations by Districts

	July 1 Dy. crude capacity (bbls.)	July Dy. crude runs (bbls.)	June Dy. crude runs (bbls.)	July daily increase (bbls.)
Arkansas	44,000	20,250	20,400	*150
Kansas	175,000	107,450	98,700	8,750
North Louisiana	41,000	25,050	25,050	.....
Oklahoma	315,400	165,350	150,910	14,440
North Central Texas	227,500	86,855	80,230	6,625
West Texas	143,125	40,595	34,280	6,315
East Texas	103,750	80,295	70,417	9,878
Total	1,049,775	525,845	479,987	45,858

*Decrease.

These bring the total number of plants listed in East Texas to 49 and there are other small skimming plants of less than 100 bbls. capacity that run intermittently which are not included here.

Along with these additions several changes were made in the ownership of plants there and one plant was destroyed by fire, namely the Gregg Refining Co. plant at Gladewater. The name of the Bluebonnet Refining Co. has been changed to the Bluebird Refining Co. and the Hartsfield Refining Co. is now the Texas Refining Co.

Total refinery crude runs in East Texas have been scheduled at 80,295 bbls. daily which compares with 70,417 bbls. in June. This increase is accounted for in part by the new plants but more particularly by the higher rate of operations in the larger plants there.

REFINERY OPERATIONS IN OKLAHOMA
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Aver. daily runs— July	June
Altitude Petroleum Corp. (J. H. Peacock Refining Co.), Oklahoma City	3,000	500	500
Anderson-Prichard Oil Corp., Cyril	6,000	4,000	4,000
Associated Petroleum Corp., Allen	8,000	(*)	(*)
Barnsdall Refineries, Inc., Barnsdall	6,000	3,800	3,500
Barnsdall Refineries, Inc., Okmulgee	10,000	6,000	3,300
Bell Oil & Gas Co., Grandfield	4,500	3,200	3,200
Black Gold Refining Co., Oklahoma City	2,000	1,750	1,200
Century Petroleum Co., Tulsa	500	(*)	(*)
Century Petroleum Co., Oklahoma City	2,500	1,200	1,200
Champlin Refining Co., Enid	16,000	6,000	6,000
Cole (L. S.), Refining Co., Oklahoma City	400	(*)	(*)
Columbia Oil Corp., Oklahoma City	3,500	(*)	(*)
Continental Oil Co., Sapulpa	10,000	(*)	(*)
Continental Oil Co., Ponca City	30,000	17,250	15,000
Crescent Refining Co., Holdenville	1,000	(*)	800
Cushing Refining & Gasoline Co.,Blackwell	1,800	1,600	1,500
Cushing Refining & Gasoline Co., Cushing	4,500	3,000	2,200
Deep Rock Oil Corp., Cushing	10,000	9,000	7,500
Eason Oil Co., Enid	5,000	2,700	2,500
Empire Oil & Refining Co., Okmulgee	4,000	2,700	2,700
Empire Oil & Refining Co., Ponca City	12,000	8,400	8,000
Firestone Refining Co., Oklahoma City	200	(*)	(*)
Garber Refineries, Inc., and Omar Refining Co., Garber	3,500	(*)	(*)
Gem Refining Co., Oklahoma City	1,000	100	50
Globe Oil & Refining Co., Blackwell	7,500	6,000	6,000
Johnson Oil Refining Co., Cleveland	6,000	5,000	3,500
Major Petroleum Products Co., Oklahoma City	2,000	300	250
Mid-Continent Petroleum Corp., West Tulsa	40,000	20,000	19,000
Marathon Oil Co., Boynton	2,500	(*)	(*)
Marathon Oil Co., Bristow	5,000	3,000	(*)
Oklahoma City Refining Co., Oklahoma City	2,500	(*)	(*)
Phillips Petroleum Co., Okmulgee	6,000	4,500	4,500
Producers Oil Co., Bristow	2,500	1,000	1,000
Producers & Refiners Corp., West Tulsa	6,000	3,500	3,500
Pure Oil Co., Ardmore	5,000	(*)	4,000
Pure Oil Co., Muskogee	9,000	8,500	7,000
Rock Island Refining Co., Beckett	6,000	4,300	4,000
Sinclair Refining Co., Sand Springs	3,000	2,400	2,350
Sterling Refining Co., Oklahoma City	3,500	1,500	500
Sun Oil Co., Yale	5,000	2,500	3,500
Sunray Oil Co. (C. E. Wright, receiver), Allen	7,000	2,500	2,000
Sunshine Refining Co., Seminole	500	(*)	(*)
Texas Co., West Tulsa	15,000	10,000	9,000
Texas Pacific Coal & Oil Co., Wynnewood	3,000	1,500	1,500
Tide Water Oil Co., Drumright	15,000	10,000	8,000
Western Oil Corp., Beckett	2,000	350	400
Wilcox Oil & Gas Co., Bristow	5,000	4,000	4,300
Wirt Franklin Petroleum Corp., Ardmore	4,000	2,500	2,100
Yale Oil Corp., Yale	3,000	300	350
York Refining Co., Oklahoma City	3,000	500	(*)
Total	315,400	165,350	150,910

*Shut down.

Oklahoma Plants

In Oklahoma a total schedule of 165,350 bbls. daily has been established for July, which compares with 150,910 bbls. in June. This increase of almost 15,000 bbls. is the result of general advances in the runs at a majority of plants and to the resumption of operations in two plants.

One of these to resume operations is the Marathon Oil Co. at Bristow. This plant has been modernized and now includes a 2,000-bbl. cracking unit. This plant will run 3,000 bbls. daily in July. The other one to resume operations is that of the York Refining Co. at Oklahoma City. This will average 500 bbls. daily during July.

Two plants have been shut down for July, namely the Crescent Refining Co. at West Holdenville and the Pure Oil Co.'s plant at Ardmore. The latter will be dismantled and is now in the process of running up tank bottoms. The Pure Oil Co.'s plant at Muskogee will run additional crude to equalize the effect of shutting down the Ardmore plant.

Kansas Operations

Kansas refineries will run a total of 107,450 bbls. of crude daily during July. This represents an increase of nearly 9,000 bbls. daily. The improved crude oil price situation in Kansas has permitted these refineries to purchase more crude and this along with the better movement of products accounts for the larger runs. All plants located in Kansas are in operation.

West Texas

West Texas refinery operations will not be changed greatly in July from those during June. The West Texas Refining Co. has resumed operations in its Pecos City plant which accounts for the 3,000-bbl. increase as a total for the area.

North Central Texas

Crude runs in the North Central Texas group of refineries will approximate 85,155 bbls. daily during July compared with 80,230 bbls. during June. This increase is attributed to a rather general improvement in demand for refinery products which caused a corresponding jump in the rate of refinery operations.

Except for the shutting down of the Sinclair Refining Co.'s plant at Fort Worth and the resumption of operations in the Taxman Refining Co.'s plant at Wichita Falls there is no contemplated changes in the list of operating and idle plants in July.

One new plant has been added to the list, namely the Tucker Refining Co. plant at Wichita Falls. This is a 200-bbl. skimming plant and will run approximately 75 bbls. daily during July.

North Louisiana and Arkansas

The North Louisiana and Arkansas group of refineries will each run approximately the same volume of crude in July as June. There is no change in the status of the operating and shutdown plants in either area.

Recently the Spartan Refining Co. announced it would build a 2,000-bbl. cracking unit at its Shreveport refinery. This work will begin within two weeks and is expected to be completed in five months.

(Continued on Page 41)

Texas Petroleum Council Organized at Houston to Support Enforcement of Proration Orders

By NEIL WILLIAMS

HOUSTON, Tex., July 11.—An organization, completely representative of the petroleum industry of Texas, whose sole purpose will be to promote harmony and work with and assist the Railroad Commission and other regulatory bodies to the end that proration and other orders may be made more effective, came into being at a meeting of leaders of all branches of the oil business at Houston Monday. The meeting was held at the call of George A. Hill, Jr., president of the Houston Oil Co. and a member of the National Advisory Committee, and the response in attendance, totaling approximately 150 persons, was more than gratifying. Hearty accord with the new movement was expressed by all present.

The association selected as its name Texas Petroleum Council, chartered under the laws of Texas. Its duties will be strictly educational and scientific and as a body it will not replace or rival any existing associations and because of the nature of its duties it will not play to any particular faction but rather will confine its efforts to the investigation, collection and dissemination of data with respect to production of excess oil, physical waste in production, storage or transportation of crude oil, the elimination of hazards, and like work.

Central offices of the association will be maintained at Austin, where work with the Railroad Commission can be facilitated. However, offices will be maintained in various districts of the State with full time managers and sufficient assistants to perform the outlined duties. Meetings also will be held at intervals at different points as desired.

The organization will include a president, five vice presidents, consisting of an administration vice president who will be ex-officio chairman of all regional committees, a vice president in charge of finance, vice president in charge of publicity, vice president in charge of the legal work, and vice president in charge of technical duties. It also includes a general board of directors, made up of representatives of every phase of the business, a press committee, legal committee and technical committee.

Robert W. Stayton President

At a meeting of the board of directors, selected at the opening of the general meeting, Robert W. Stayton, head of the law department of the University of Texas, was elected president, which action was approved later by the general meeting. It was decided that the president should be a disinterested man outside the oil business, and one who could administer the affairs of the association in an impartial way. Mr. Stayton, who was not present at the meeting, accepted the office conditional upon the approval of the faculty and regents of the university. Other officers, consisting of the five vice presidents, also will be selected by the board of directors, but the election will not be made until after a conference by a committee with Mr. Stayton to ascertain his preference for co-workers. It was recommended, however, that W. E. Wrather, Dallas consulting geologist, be elected as administrative vice president.

An open meeting of the board of directors will be held at Austin July 17 to lay further plans for initiating the work of the new association.

Wire Roosevelt

The council, upon recommendation from its directors, voted unanimously to send a telegram to President Roosevelt and Secretary of Interior Ickes asking that the new Federal law to stop the interstate movement of illegal oil be put into effect immediately.

The sessions were called to order by Mr. Hill, who acted as temporary chairman pending perfection of the organization. Following the election of the board of directors, Capt. J. F. Lucey was chosen as permanent chairman.

C. A. Terrell and Ernest Thompson, members of the Railroad Commission, attended the sessions and delivered addresses commending what was being done by the organization of the Petroleum Council. They pointed out the need of a fact-finding body such as this one, saying that it had been physically impossible for the commission with limited funds to maintain a sufficient staff to obtain the information necessary for the promulgation of effective proration regulations and efficient enforcement.

Board of Directors

The following were named on the board of directors: George Heyer, T. E. Swigart, Jack Pew, John R. Suman, Fred C. Sealey, J. S. Cullinan, Frank Pryor, Joe H. Russell, Hiram King, W. M. Irish, III, Ed T. Moore, J. F. Lucey, Freeman W. Burford, H. L. Hunt, Joe Kilgore, R. R. Hobson, C. F. Roeser, J. R. Parten, Tom Cranfill, M. W. Blair, Myron Blalock, B. E. Sniffen, Edwin M. Jones, E. S. Heyser, George Sawtelle, J. S. Abercrombie, S. P. Farish, E. H. Salrin, Bailey Hardy, George L. Noble, Jr., Frank Yount, Gus Taylor, Nathan Adams, B. E. SoRelle, Lloyd Wheelock, E. L. Smith, R. H. Morrison, E. A. Landreth, Carl Estes, J. D. Sandifer, George Morgan, J. D. Collett, J. M. Crim, W. A. Moncrief, Mel Davis, Stanley March, Barney Flynn, Claude Ashby, Mills Bennett, Jake Hamon, Al Guiberson, W. G. Williams, Houston Hart, W. R. Nicholson, Harry Pennington, J. S. Bridwell, R. O. Garrett, W. C. McKinney and J. K. Wadley.

Legal Committee

The members of the legal committee are: W. H. Francis, R. E. Hardwicke, George D. Sears, Beeman Strong, Marion Church, S. M. Leftwich, Thomas B. Ramey, John Kilgore, Myron G. Blalock, T. L. Foster, Rhodes Baker, Palmer Bradley, Elwood Fouts, Jacob F. Wolters, David Proctor, J. B. McIntyre, H. F. Montgomery, Harris Melasky, Tom Howard, John Boyle, J. A. R. Moseley, Jr., H. Hiner, Berney Braly, C. L. Black, Edgar Townes, Dillard Estes, Pat Swearingen, Dan Moody, W. A. Vinson and Tom Knight.

Salient Features

The salient features of the association as laid down by Mr. Hill in his call for the meeting are:

1. This association is not intended to replace or rival any existing association, and may therefore include all of the members of all associations who are in favor of law enforcement and who believe that the co-operative effort of the operators under such a limited association as proposed will be effective.

2. This association is formed to aid the Railroad Commission under its express statement that it invites such aid, and such assistance is intended to be given as aid and co-operation and not in the spirit of opposition.

3. This association will not receive or disburse funds for political purposes or uses, or attempt, as such, to set up or strike down, constituted authorities, but render effective, strong support to law enforcement whenever and wherever invited or permitted to do so.

4. This association will not engage in any activities directly or remotely connected with price fixing or other activity not permitted by state and Federal law.

5. This association should have a large governing board truly representative of every phase and faction of the oil industry in Texas, and be headed by some person of commanding influence, disassociated in the past with any faction or rival group.

6. This association will have its actions and policy carefully and considerately determined by its governing board with the constant aid and advice of a competent and representative legal council.

Duties of Council

The duties as outlined and included in the application for the charter are:

(a) The investigation, collection and dissemination of data with respect to salt water production, disposal, pollution, etc., in specific areas, and recommendations for the elimination or control thereof for the benefit of the producers, and suggested methods of control in aid of the state fish and game commissioner, and the reporting of facts of an evidential character that will enable the the fish and game commissioner to successfully enforce the state laws with respect thereto. Likewise, to supply such data and information to the Railroad Commission of Texas in order to enable it to formulate wise and practical rules for the elimination and control thereof, and to aid it in enforcement of its rules and regulations and orders by reporting infractions of such rules and regulations. Likewise, to supply data that is unbiased and unimpeachable and legally admissible to the attorney general of Texas, in aid of his law enforcement activities;

(b) To investigate, collect and disseminate data with respect to production of oil in any quantity in excess of the allowable permitted under the regulations and orders of the Railroad Commission of Texas or in any manner in violation of such rules, orders or regulations, and the disposition being currently made of such illegally produced oil by the producers thereof and the recipients thereof whether by pipe line, tank car or otherwise, in such form and in such manner that legally admissible evidence should be available for the Railroad Commission of Texas and the attorney general of Texas, in aid of their law enforcement activities;

Physical Waste

(c) To investigate, collect and disseminate authentic data with respect to physical waste in the production, storage or transportation of crude oil in the various Texas oil fields, inefficient gas-

(Continued on Page 31)

Promotions in Production Division of The Texas Co.

Announcement has been made of two promotions in the producing department of the Texas Co. One is that of L. E. Barrows, division manager of the West Texas district, which has had its headquarters in Fort Worth for several years. The other is R. F. Baker of New York, for many years chief geologist of the company. Both are named as assistants to the manager of the producing departmentment of the company, who is R. Ogarrio of New York. Both will assume their new duties in addition to those they now have.

L. E. BARROWS

Mr. Barrows will maintain his headquarters in Fort Worth, but apparently will be the general contact man for the producing department out in the field. His duties are expected to include general co-ordination of the various divisions in the Southwest, which include Fort Worth, Wichita Falls, Houston, Shreveport and Tulsa. Mr. Baker remains in New York.

RAYMOND F. BAKER

Mr. Barrows was manager of the natural gas department before going to the producing division he heads now. Offices for the producing division were formerly in Cisco but were moved to Fort Worth in 1926.

Loss in Gasoline Antiknock Rating With Acid Treatment Dependent on Several Factors

By C. WIRTH III, E. R. KANHOFER and G. B. MURPHY
Universal Oil Products Co. Research and Development Laboratories, Riverside, Ill.

During the acid treatment of endpoint cracked gasolines in the laboratory, a resulting loss in the antiknock properties of the finished products occurs. The lower octane number is due to the several losses sustained during the acid treatment, namely, acid solution loss, polymerization loss[1] and distillation loss. It is the object of this work to develop a method to determine to what extent each of these several factors is contributing to the overall octane number loss.

The investigation was conducted upon cracked gasolines produced in the Dubbs Pilot Plants. The treating was carried out by a procedure which has been standardized in this laboratory and utilizes ordinary laboratory glass apparatus. The raw gasolines are agitated with the acid for 30 minutes at 40° F., neutralized with caustic soda, and rerun in batch with fire and steam at a maximum still temperature of 350° F.

Distillation Loss

The distillation loss on rerunning acid treated endpoint distillates in the laboratory may be subdivided into two parts, namely, a loss of light hydrocarbons, which is the actual distillation loss, and a loss of heavy hydrocarbons, due to fractionation limitations. The latter loss is caused by the incomplete removal of the gasoline from the bottoms, some loss being unavoidable if polymer contamination is to be avoided. Each of these factors may be determined separately.

To determine the change in octane number due to loss of light hydrocarbons, the raw gasoline was steam distilled to remove approximately 50 per cent overhead. The loss in this step was taken as the loss of light hydrocarbons. The recovered overhead distillate was blended back with the bottoms before the octane number determination was made.

In order to determine the effect of the heavy hydrocarbon loss independent of the solution and polymerization factors, it is necessary to assume that the loss of the heavy hydrocarbons from an untreated distillate will produce the same octane number difference as the identical loss from a treated distillate. To allow a comparison of the rerun treated product with the untreated gasoline, an untreated distillate was rerun to produce a distillate of practically the same distillation characteristics as the finished treated gasoline. The change in octane number due to heavy hydrocarbon loss is obtained by comparison of this product with the untreated gasoline which has lost only the light hydrocarbons.

The difference in octane number between the untreated and the treated product of the same boiling range may therefore be taken as directly attributable to the acid solution and polymerization losses. Three endpoint gasolines were studied following the above procedure and comparisons were made of the octane numbers and distillation characteristics. The gasolines were produced in the Dubbs Pilot Plant when cracking the following stocks:

1. Oklahoma City, Oklahoma, topped crude oil.
2. Lucien district, Kansas, topped crude oil.
3. Smackover, Arkansas, topped crude oil.

The results are presented in the accompanying tables and curves.

TABLE 1

Charging stock:	Oklahoma City, Oklahoma, topped crude oil			
Sample:	Cracked endpoint gasoline			
Treatment:	Original untreated gasoline	Untreated gasoline Steam	Untreated gasoline with 3.5% distillation loss Partial steam	Six pounds, 93% sulphuric acid Steam
Distillation:				
Per cent overhead	...	95.5	...	93.1
Gravity, deg. A.P.I.	60.2	58.8	58.4	58.5
Octane No.	72.5	72.5	71.5	70.0
100 cc. A.S.T.M. Distillation				
I.B.P., ° F.	84	102	102	104
5 per cent	114	128	130	130
10	135	145	150	149
20	166	174	180	180
50	252	253	253	254
90	360	348	358	350
E.P., ° F.	380	378	380	380
Per cent over	95.5	98.0	98.0	97.5
Per cent bottoms	1.5	1.0	1.0	1.0
Per cent loss	3.0	1.0	1.0	1.5

TABLE 2

Charging stock:	Lucien district, Kansas, topped crude oil			
Sample:	Cracked endpoint gasoline			
Treatment:	Original untreated gasoline	Untreated gasoline Steam	Untreated gasoline with 4.0% distillation loss Partial steam	Six pounds, 93% sulphuric acid Steam
Distillation:				
Per cent overhead	...	96.0	...	92.5
Gravity, deg. A.P.I.	58.1	56.6	56.3	56.0
Octane number	74.0	72.5	72.0	70.0
100 cc. A.S.T.M. Distillation				
I.B.P., ° F.	95	105	112	116
5 per cent	125	131	136	146
10	144	148	152	161
20	177	181	185	187
50	267	266	267	270
90	389	380	385	377
E.P., ° F.	408	408	412	405
Per cent over	95.0	97.5	97.5	98.0
Per cent bottoms	1.5	1.0	1.0	1.0
Per cent loss	3.5	1.5	1.5	1.0

Discussion of Results

1. Effect of distillation loss (loss of light hydrocarbons).

(a) Oklahoma City, Oklahoma, topped crude oil. The loss of light hydrocarbons due to a steam distillation amounted to 3.5 per cent and resulted in a loss of one octane number, 72.5 to 71.5. Curve No. 1 shows the distillation characteristics of this product and the original raw gasoline as differing only in the light hydrocarbons present.

(b) Lucien district, Kansas, topped crude oil. The steam distillation caused a 4 per cent distillation loss and an octane number drop of two. The distillation characteristics are compared in Curve No. 2.

(c) Smackover, Arkansas, topped crude oil. The octane number of this cracked gasoline is not lowered by a distillation loss of 3.1 per cent. The general type of hydrocarbons with high antiknock characteristics in this stock are probably responsible for this condition. The distillation characteristics are shown in Curve No. 3.

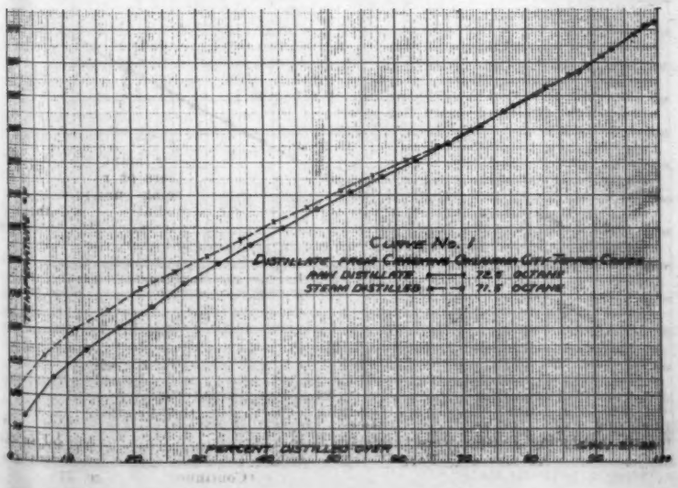
2. Effect of loss of heavy hydrocarbons.

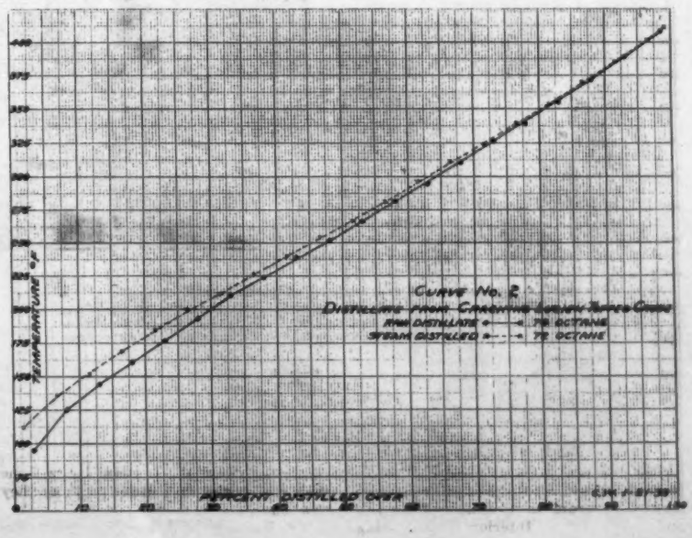
(a) Oklahoma City, Oklahoma, topped crude oil. The distillation characteristics of the 95.5 per cent untreated carbons closely approximate those of the rerun treated distillate. (See Curve 7.) The octane number of this overhead product is the same as the original gasoline and one octane number higher than the untreated gasoline with a 3.5 per cent distillation loss. Therefore, on this basis there is an increase of one octane number in this gasoline due to a loss of heavy hydrocarbons. The octane number differences due to the two hydrocarbon losses are in this instance compensating. Curve 4 shows the distillation of this project compared to the original gasoline.

(b) Lucien district, Kansas, topped crude oil. The 96 per cent overhead prod- (Table 2, Curve 2) closely approximates the distillation characteristics of the rerun treated distillate. (See Curve 8.) The loss of heavy hydrocarbons by the rerunning operation of this gasoline results in an increase of one-half of an octane number from 72 to 72.5 by comparison with the untreated gasoline with a 4 per cent distillaiton or light hydrocarbon loss only. Curve 5 compares the distillation of this product with the original gasoline.

(c) Smackover, Arkansas, topped crude oil. The loss of heavy hydrocar-

[1] J. C. Morrell, Ind. Eng. Chem. 19, 794 (1927).


Curve No. 1
Distillate from Cracking Oklahoma City Topped Crude
Raw Distillate ←——→ 72.5 Octane
Steam Distilled ←- - -→ 71.5 Octane
Temperature °F.
Percent Distilled Over


Curve No. 2
Distillate from Cracking Lucien Topped Crude
Raw Distillate ←——→ 72 Octane
Steam Distilled ←- - -→ 72 Octane
Temperature °F.
Percent Distilled Over

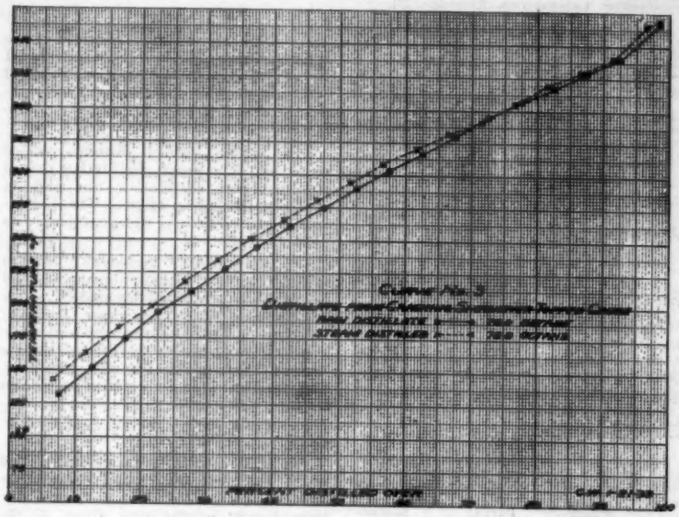
bons in a rerunning operation of this gasoline to produce a distillate comparable to a similarly distilled treated product does not incur any change in antiknock. Ninety-seven per cent of the gasoline was taken overhead by steam distillation with loss of both light and heavy hydrocarbons. The distillation characteristics of this product are compared to the original gasoline in Curve 6.

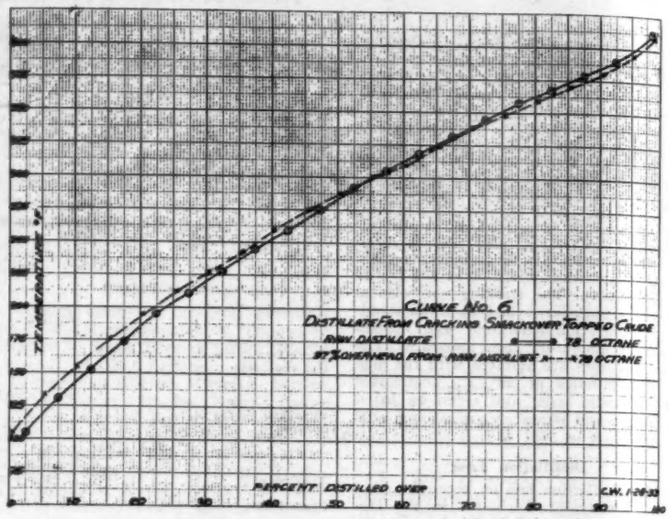
3. Effect of solution and polymerization losses.

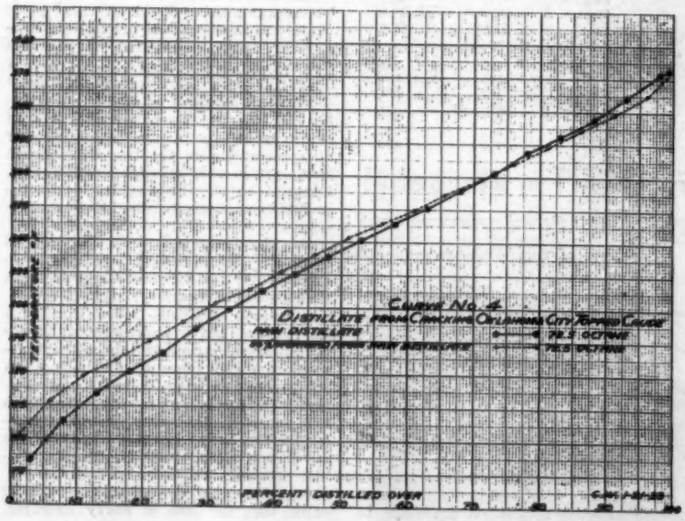
(a) Oklahoma City, Oklahoma, topped crude oil. The cracked distillate was treated with 6 pounds of 93 per cent sulphuric acid per barrel, neutralized with caustic soda, and rerun with fire and steam at a maximum still temperature of 350°, removing 92.1 per cent overhead. The solution and polymerization losses were 2.4 per cent and 1.2 per cent, respectively. The distillation range of the product compares excellently with that of the 95.5 per cent overhead removed from the raw distillate. This comparison is shown in Curve 7. The 2.5 lower octane number of the treated product may be attributed to the solution and polymerization losses since the octane number differences due to the light and heavy hydrocarbons in this instance are compensating.

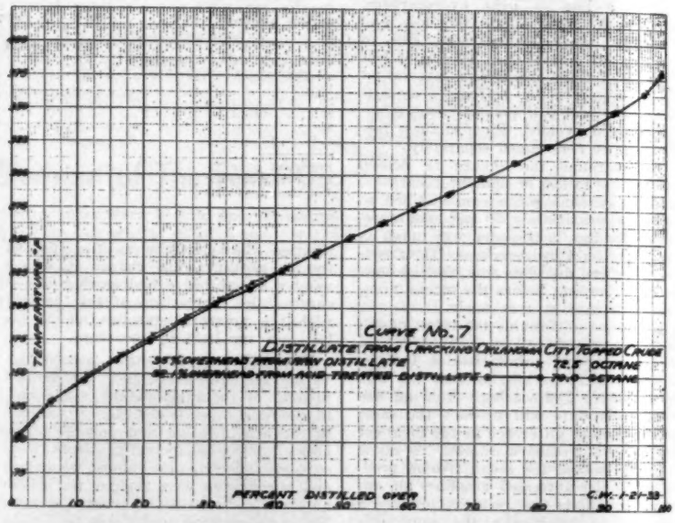
(b) Lucien district, Kansas, topped crude oil. Six pounds of 93 per cent sulphuric acid per barrel were used to treat the cracked distillate with subsequent neutralization with caustic soda and rerunning with fire and steam at a maximum still temperature of 350° F. to remove 92.5 per cent overhead. The solution and polymerization losses were determined as 2 per cent and 1.8 per cent, respectively. The distillation characteristics of the product are comparable to the 96 per cent overhead removed from the raw distillate. The treated distillate shows a reduction of 2.5 octane numbers from the untreated gasoline which has also had a loss of both heavy and light hydrocarbons. This reduction of 2.5 oc-

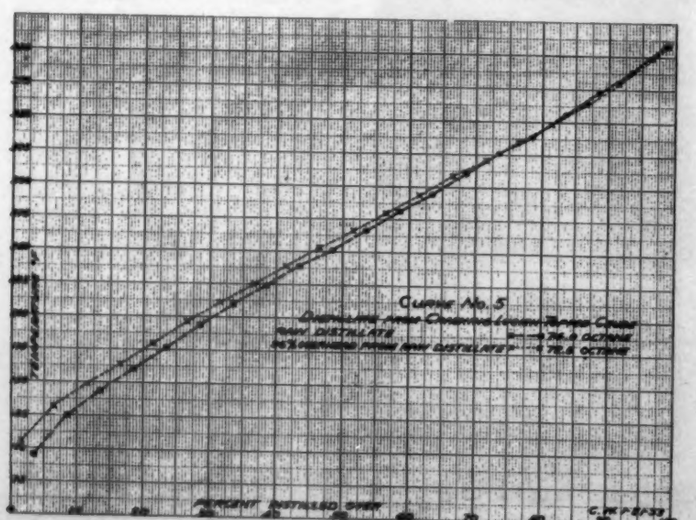
(Continued on Page 43)

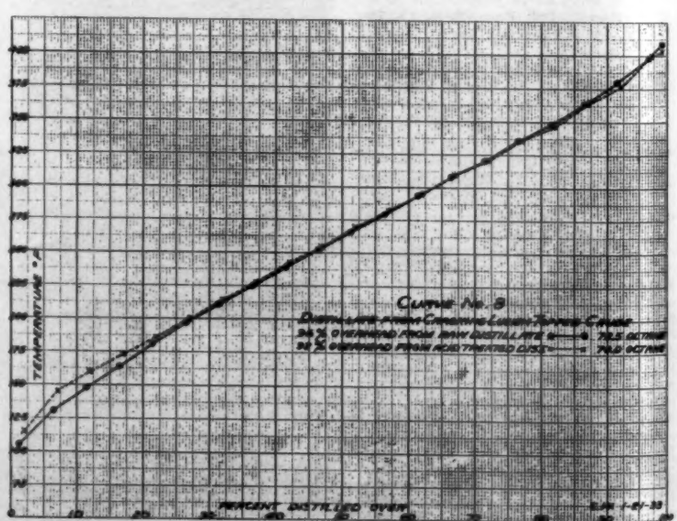

Curve No. 3
Distillate from Cracking Oklahoma City Topped Crude
Raw Distillate ——— 78.0 Octane
Steam Distilled ——— 78.0 Octane
Temperature °F.
Percent Distilled Over


Curve No. 6
Distillate From Cracking Subsurface Topped Crude
Raw Distillate ——— 78 Octane
97% Overhead from Raw Distillate ——— 78 Octane
Temperature °F.
Percent Distilled Over


Curve No. 4
Distillate from Cracking Oklahoma City Topped Crude
Raw Distillate ——— 72.5 Octane
95% Overhead from Raw Distillate ——— 72.5 Octane
Temperature °F.
Percent Distilled Over


Curve No. 7
Distillate from Cracking Oklahoma City Topped Crude
95% Overhead from Raw Distillate ——— 72.5 Octane
95% Overhead from Acid Treated Distillate ——— 70.0 Octane
Temperature °F.
Percent Distilled Over


Curve No. 5
Distillate from Cracking Oklahoma City Topped Crude
Raw Distillate ——— 72.5 Octane
95% Overhead from Raw Distillate ——— 72.5 Octane
Temperature °F.
Percent Distilled Over


Curve No. 8
Distillate from Cracking Oklahoma City Topped Crude
95% Overhead from Raw Distillate ——— 72.5 Octane
95% Overhead from Acid Treated Dist. ——— 70.0 Octane
Temperature °F.
Percent Distilled Over

Geological Report on Cut Bank Field, Montana, Outlines Many Interesting Points of Area

By EUGENE S. PERRY
Chief Geologist, Montana Bureau of Mines and Geology*

Attention has been focused, during the past few months, on the successful completion of several wells near Cut Bank, Montana, thus making known a new oil field. The nearest proven oil field is at Kevin, 15 miles distant. The new field is unique in some respects, and gives promise of ranking importance with other Montana fields. Although the wells which may produce 250 bbls. at the beginning are not so large as in many fields, they are nevertheless of commercial importance; and the extent of the area of probable production, involving at present 12 or 15 square miles, points to a new source of supply for many thousands of barrels of high grade paraffin base oil. Specific gravity tests show 38° Be. scale, which is 6 degrees higher than the Kevin crude. The producing horizon, approximately 2,900 feet deep, is sandstone of lower Cretaceous age whose average thickness is about 25 feet; and it is believed to be the same as produces gas in the prolific Cut Bank gas field which adjoins the oil territory on the northeast.

Montana now has 10 oil fields which listed in order of their discovery are: Elk Basin, Cat Creek, Soap Creek, Kevin-Sunburst, Lake Basin, Pondera, Bannatyne, Border or Red Coulee, Dry Creek and Cut Bank. Many wells are now producing oil in these areas, and some of the oil is of such high quality that it can be used for fuel in gasoline motors without refining, however, this is not commonly practiced. Conditions of oil occurrence in these several fields cover a wide range; in depth from less than 1,000 feet to more than 5,000 feet, in volume of initial flow from small wells to more than 5,000 bbls. per day, in geologic age from upper Cretaceous to Mississippian, and the oil reservoirs are sandstone and limestone. The area of producing wells in the Kevin-Sunburst Field is approximately 10 miles across in either direction. Twelve wells now drilled in the Cut Bank Field indicate that the productive area, which trends northwest-southeast, will be at least 8 miles in length and 1 or 2 miles in width, and it may be greater because it has not yet been limited on any side by "dry" holes.

Discovered in 1931

The first oil well at Cut Bank was completed in the spring of 1931. Difficulty experienced in drilling resulted in a bad condition within the hole, nevertheless, a pump was installed and oil was marketed. A year later two additional oil wells were completed. The present climax of development came in November, 1932, when a well completed in the center of the field by the Santa Rita Oil Co. flowed 145 bbls. of high grade oil in 12 hours, and pumped 248 bbls. in 24 hours. Practically all of the land in the prospective area is now under lease, and the coming months will see the erection of many new derricks and there should be many completions.

The surface throughout the field is a gently rolling prairie, decidedly flat in places, uninterrupted by trees, and settled by "dry land" farmers whose attempts at wheat raising have not always been successful. Occasional bands of cattle thrive on the prairie grass. During periods of wet weather numerous ponds develop. Where the larger streams, such as Cut Bank Creek, cross the region, deep cut valleys in places confined by vertical cliffs of banded strata, form barriers to travel.

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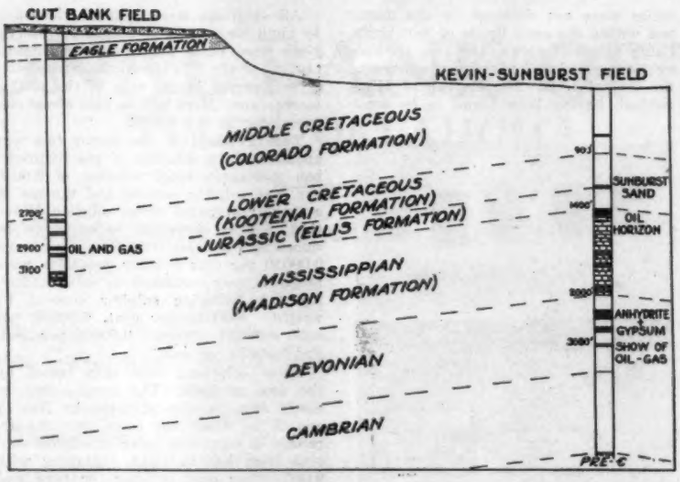


Correlation between Cut Bank and Kevin-Sunburst oil fields, Montana

General Geology

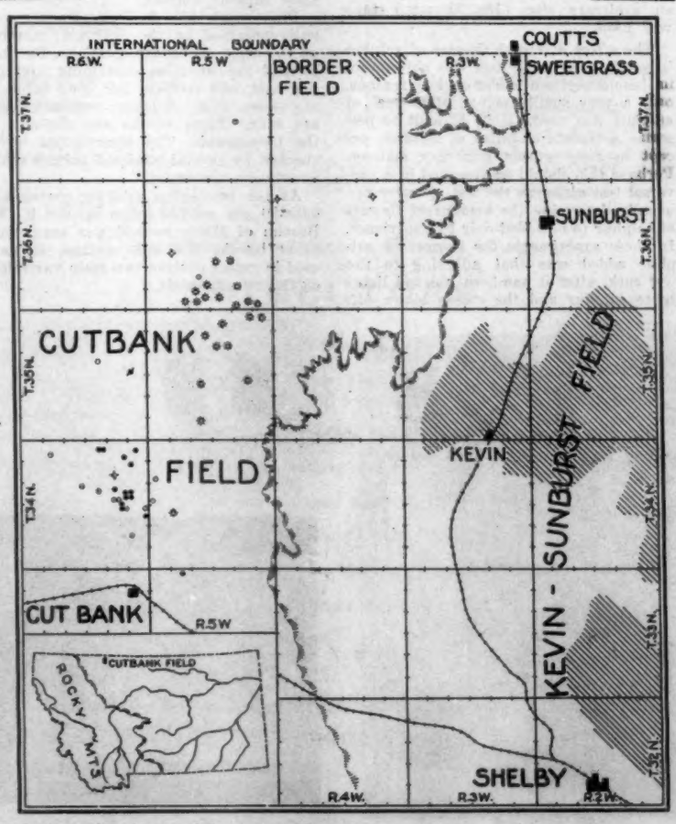
Oil in the Cut Bank Field occurs in a sandstone near the base of the Kootenai (Dakota) formation of lower Cretaceous age. At the surface is a blanket 25 or 50 feet thick of loose sand and gravel brought southward from Canada by glacial ice. In most places it obscures the "bedrock" which is alternating sandstone and shale of the Two Medicine formation, upper Cretaceous in age. Below the Two Medicine occurs first the Eagle (Virgelle) sandstone about 250 feet thick, and then the Colorado (Benton) shale formation whose thickness is approximately 1,850 feet. The top of the Kootenai is found at about 2,300 feet, and it is recognized by bright red shale cuttings in the drilling sludges which come from the wells.

The Kootenai formation in northern Montana is not uniform in its lithologic character, and the individual beds of sandstone or shale do not always persist for great distances. The succession of strata as recorded in one well are frequently not the same as that recorded in a near-by well. Hence difficulty is had in interpreting relationships in the oil and gas-producing formations. The formation is believed to be terrestrial, that is, it is believed to have been laid down on land, rather than deposited under marine waters. Near Great Falls and Lewistown and in Canada thick beds of coal of Kootenai age are mined, and in areas not far distant where the formation is found at the surface, impressions of land plants and bones of land animals are embedded in these rocks. Some of these animals are those ancient gigantic reptiles known as dinosaurs. It is probable that ancient rivers flowed eastward from British Columbia over an extensive coastal plain, and the interfingering beds of sandstone and shale of the Kootenai of Montana are mainly flood plain deposits left by these ancient rivers.

Upon drilling through the oil horizon gray shale and black limestone of the Ellis formation of Jurassic age are penetrated. Three hundred feet below the oil horizon is white limestone of the Madison formation of Mississippian age in the top of which so much oil has been found in the Kevin-Sunburst Field 15 to 25 miles eastward. The Kevin Field is described in deail in Memoir No. 1 of the Montana Bureau of Mines and Geology.

The "oil sand" at Cut Bank is a hard gray sandstone 5 to 50 feet thick, in places containing black chert pebbles. It is believed to be a continuation of the gas-producing sandstone locally known as Darling sand of the adjoining gas field. The sand is approximately the same as the "Cosmos" sand, lowermost producing horizon of the Border or Red Coulee oil field 21 miles northeastward, and it is not greatly different in geologic age or stratagraphic position from the Sunburst sand of the Kevin Field. The Cut Bank oil horizon has no exact equivalent in the Wyoming oil fields but is approximately in the same geologic position as the Lakota sandstone, or the Greybull sand.

Some difference of opinion prevails as to the exact age of the oil-producing sand. Occurring as it does between strata of known Jurassic age and known lower Cretaceous age, and in view of changing lithologic characteristics within these formations, uncertainty accompanies the placing of the sandstone in either the one or the other. Concensus of opinion favors the placing of the sandstone with lower Cretaceous (Kootenai) strata which it much resembles. Economically it matters little so far as the Cut Bank Field is concerned. Among geologists it is disturbing not to be able to render an opinion beyond contradiction.



Map showing position of Cut Bank field, Montana

Structure

Anticinal structure is not present in the area of oil production in the Cut Bank Field, and the strata dip uniformly to the southwest at a rate approximately 100 feet per mile. The "trap" responsible for the accumulation of the oil and gas is believed to be either an eastward lensing or pinching out of the sandstone horizon, or else an eastward decrease in porosity in the sandstone due to intermixing of shale material with the

(Continued on Page 46)

Compare Principal Procedures Commonly Used in Making Doctor Test on Natural Gasoline

By GEORGE A. BOYD
Phillips Petroleum Co.

There are several variations of the doctor (sodium plumbite) test for the detection of mercaptans in gasoline. These variances are: The methods of preparation of the doctor solution, size and shape of reaction container, volumetric ratio of gasoline to reagent, details of agitations, and in some instances the amount of flowers of sulphud added. Although the tests are essentially identical (same chemical reactions), the various extraneous factors produce discordant results.

For example, natural gasoline is tested at the origin by the doctor test method prescribed in the specification sheets, effective January 1, 1932, distributed by the Natural Gasoline Association of America. At the destination it may be tested by any one of a number of methods. Most frequently the method used is 520.3, prescribed in U. S. Bureau of Mines Technical Paper 323-B. On numerous occasions, because of the non-universality of test methods, quibbling has occurred between marketer and consumer.

The work reported herein was undertaken to demonstrate the actual and relative sensitivity of the two above-mentioned methods. It is believed that these two methods are more widely used in the industry.

Solution and Procedure

As a base stock for the mercaptan solutions, 60° naphtha with an initial boiling point of 195° F., dry point of 260° F., specific gravity at 60° F. of 0.735, and mercaptan free was used. Methyl, n-butyl and n-heptyl mercaptans were used as supplied by Eastman Kodak Co. Solutions of these three mercaptans were prepared of approximately 0.004 per cent sulphur content. The exact mercaptan content was determined by a well proved analytical method. All solutions were then diluted to 0.002 per cent sulphur for methyl mercaptan, and to 0.001 per cent sulphur for n-butyl and n-heptyl mercaptans. From these solutions of known concentrations of sulphur, solutions of any sulphur content were easily and quickly prepared. These were prepared in clean glass stoppered bottles.

N-butyl mercaptan was chosen as a representative of the mercaptans found in gasoline as it had been noticed that the lowest and higher members of the series were not detected by the doctor test within the same limits of sensitivity. Using this mercaptan, the two methods were compared and photographs taken of the crucial tests. The Bureau of Mines method, having been found to be somewhat more sensitive, was used in a study of the variations of the doctor sensitivity with mercaptan molecular weight.

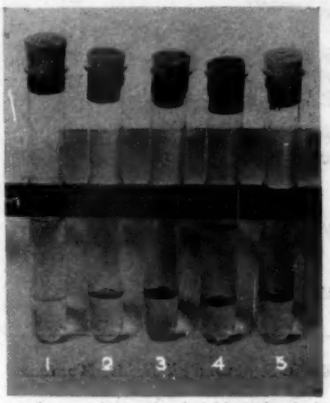


Figure 1—Sensitivity of the U. S. Bureau of Mines doctor test method to butyl mercaptan

It should be noted that the size of the test tube is not specified in the Bureau of Mines method. In these experiments an arbitrary size (18x150 mm.) tube was used.

The effect of excess flowers of sulphur in making the doctor test was not studied in these experiments. For obvious reasons, only a very small amount of flowers of sulphur was used. It is difficult to prescribe a certain quantity of sulphur, except in some purely arbitrary manner. Perhaps this should be specified in a universal test although the test operator can usually determine the amount of flowers of sulphur to be added only by experience. In these experiments the flowers of sulphur added was that adhering to the wet cork, after it has been touched lightly to sulphur and the excess blown off.

All solutions were agitated vigorously by hand for exactly 15 seconds. Observations were made immediately after separation of the solution to their respective layers, except in the case of the methyl mercaptans. More will be said about this case later in the report.

The threshold of the doctor test was approached by dilution of the hydrocarbon mercaptan stock solution of 0.0010 per cent sulphur content and the use of a roughly prepared doctor solution. When the limit of detection appeared to be somewhere between 0.00050 per cent and 0.00010 per cent sulphur, solutions were prepared very accurately by dilution having the following sulphur content by weight: 0.00010 per cent, 0.00020 per cent, 0.00030 per cent, 0.00040 per cent, and 0.00050 per cent.

These solutions were then tested by the two methods. The results can be easily seen in the photographs Nos. 1 and 2, in which the containers are arranged in ascending order of sulphur content from left to right, beginning with 0.00010 per cent sulphur for tube and bottle No. 1 and progressing with increments of 0.00010 per cent to 0.00050 per cent for the tube and bottle No. 5.

Explains Photograph

Photograph No. 1 shows the results of the tests by the U. S. Bureau of Mines method. It is clearly observed that the 0.00010 per cent sulphur sample is sweet while the 0.00020 per cent sulphur sample is definitely sour. All higher mercaptan concentrations show an increase in lead sulphide corresponding to their sulphur content.

Photograph No. 2 illustrates the results obtained by the N.G.A.A. method on the same mercaptan solutions. By this method the solutions containing 0,00010 per cent and 0.00020 per cent sulphur are sweet, while all higher concentrations are sour. These results are obvious in the photograph. The observations were checked by several unbiased parties with unanimous agreement.

As the mercaptan solution containing 0.00020 per cent sulphur by the U. S. Bureau of Mines method was sour, and sweet by the N.G.A.A. method, it was used in ruling out the two main variables of the two methods.

The two variables are: The nature of the containers, and the methods of preparing the doctor solutions. The prescribed amounts of doctor solution as prepared by the two methods were put into each of two 4-ounce bottles and also into each of two test tubes. The 0.00020 per cent sulphur sample was then tested. The results are shown in photograph No. 3.

On comparing tube No. 1 and bottle No. 1 it is seen that the solution is sour in the tube and sweet in the bottle. Since the same doctor solution is used (N.G.A.A.), this proves that the area of the interface is a factor in deciding the sensitivity of the method. This is again substantiated by the comparison of tube No. 2 and bottle No. 2 in which the Bureau of Mines doctor solution is used. The bottle No. 1 also checks with the second test in photograph No. 2; i.e., both are sweet; and tube No. 2 checks with the second test in photograph No. 1; i.e. both are sour.

Comparison of Results

If the two tubes are compared, since they contain different doctor solutions, it is seen that the U. S. Bureau of Mines doctor solution gives the greater lead sulphide precipitate; i.e., is more sensitive. This observation is also checked by the tests in the bottles at this critical concentration. The N. G. A. A. doctor solution shows the mercaptan solution sweet, the U. S. Bureau of Mines doctor solution shows it sour for this mercaptan content.

The U. S. Bureau of Mines doctor solution was used in the investigation of the sensitivity of the test to different mercaptans. Three mercaptans were tested: methyl, n-butyl and n-heptyl. The results are shown in the table below:

Mercaptan—	Boiling point temp., °C.	Per cent sulphur	Result of test
Methyl	*7.6	0.00200	Sour
Methyl		0.00180	Sweet
n-Butyl	*98	0.00020	Sour
n-Butyl		0.00010	Sweet
n-Heptyl	†174–175	0.00009	Sour
n-Heptyl		0.00005	Doubtful
n-Heptyl		0.00003	Sweet

*International Critical Tables.
†Identification of Pure Organic Compounds; Mulliken, Vol. 4, p. 119.

Methyl mercaptan at the doctor

(Continued on Page 31)

Figure 2—Sensitivity of the N.G.A.A. doctor test to butyl mercaptan

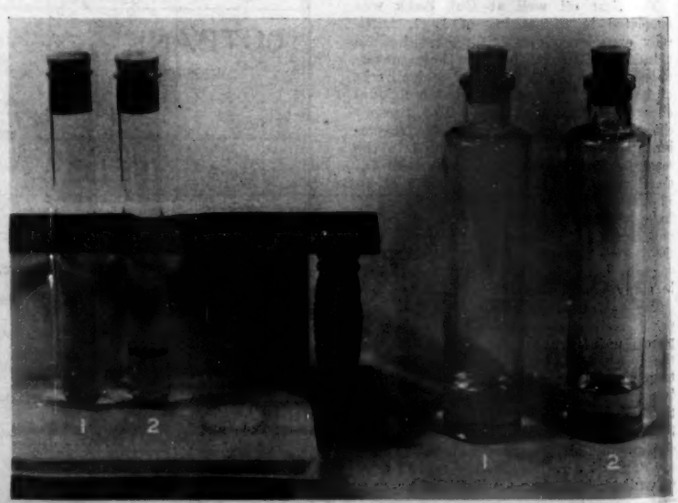


Figure 3—Effect of different doctor solutions and difference in interfacial area upon doctor test results

NATIONAL BANK OF TULSA

TULSA, OKLAHOMA

Statement of Condition June 30, 1933

RESOURCES:

Cash and Due from Banks	$ 8,145,007.09	
United States Government Securities	5,175,634.36	
Warrants	337,492.38	$13,658,133.83
Loans and Discounts		19,526,998.81
Overdrafts		1,066.36
Stock in Federal Reserve Bank		339,000.00
Due from U. S. Treasurer, Redemption Fund		50,000.00
Bank Building Equity		2,116,000.00
Customers' Liability under Acceptances		5,538.45
TOTAL RESOURCES		$35,696,737.45

LIABILITIES:

Deposits		$26,588,603.20
Circulation		928,540.00
Acceptances Executed		5,538.45
Reserves		169,120.44
Capital—Preferred	$4,000,000.00*	
Capital—Common	2,000,000.00	
Surplus	2,000,000.00	
Undivided Profits	4,935.36	8,004,935.36
TOTAL LIABILITIES		$35,696,737.45

*Owned by Reconstruction Finance Corporation.

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• • •

The National Bank of Tulsa has no affiliates or subsidiary companies. It was organized immediately prior to the passage of the Glass-Steagall "Banking Act of 1933" recently enacted by Congress, and is in compliance with the strict provisions thereof.

Starting With Three Men and an Idea, W-K-M Now Is an Important Equipment Company

By THOMAS F. SMILEY

When the W-K-M Co., Inc., of Houston, Tex., began business back in 1919 it had no manufacturing plant, no office, no corporeal hereditaments of any sort whatsoever, as lawyers and other lovers of impressive looking words would say. It just had an idea, with three energetic young men to develop it.

FRED McMANIS

The idea grew out of the fact that the Burkburnett boom was at its height, creating a tremendous demand for oil field appliances of every kind. Supply houses were swamped with orders. Frantic appeals for drilling bits, valves, tongs, pipe, pumps—the whole mechanical miscellany that enters into the drilling and producing of oil wells—went out to every place that had a foundry, a machine shop or other equipment for making the needed tools.

These insistent pleas from the new oil field spelled opportunity to C. F. Williams, L. O. Keon and Fred McManis, all of Houston. Each had received training along some line which would enable him to contribute practical service in the projected enterprise. Mr. Williams' was in mechanical engineering and shop practice. Mr. Koen's was in the actual drilling of oil wells. Mr. McManis' was in the sale of mechanical products. So they started the W-K-M Co. It will be noted, of course, that the name is made from the initial letters of the three surnames.

Wanted Fishtail Bits and Tooljoints

Among the entreaties from Burkburnett those for fishtail bits and tooljoints were especially importunate, and the newly formed company proposed to supply these tools. Manufacture of them, or of anything else, was no part of the original plan. It was designed to act simply as distributors. In furtherance of this idea, Mr. McManis went to Philadelphia, Pa., and looked after the details of having the bits and tooljoints made in manufacturing plants there and shipped to the point of consumption, while the two other members of the company obtained orders, which were transmitted to their associate in Philadelphia.

The business proved profitable from the outset, and the company soon rented an office room in the Prince Theater Building. Orders for the two items of drilling equipment handled poured in at such a rate that before long it was found impossible to keep up with them. So the young men decided that in addition to handling the finished bits and tooljoints they would also distribute the hydraulic press forgings required by concerns engaged in the manufacture of tooljoints. This was done for several years.

The business grew. So did plans for the future. In 1920 the company acquired control of patents covering a new and greatly improved type of rotary slip. Attention now was concentrated on the making and selling of these devices. Mr. McManis remained in Philadelphia to oversee their design and manufacture.

Before the year was over the company took on new importance by having a warehouse. Then it opened a more prosperous looking office in the West Building. In 1926, an expanding business being clearly in sight, it bought the acreage on which the present large plant stands.

Groundwork for Varied Line

In the meantime the company had laid the groundwork for the development of a varied line of oil field and pipe line equipment, including tractor winches, tubing catchers, tubing slips and spiders, rod hangers, pipe-handling booms, backfillers, etc.

With the passing of time the idea with which the company had started out underwent marked changes. The original plan had been simply to be a part of the routine machinery through which the oil industry obtained necessary tools; to handle established lines of equipment, not to introduce new ones. Now, however, as crudity and ineffectiveness in oil field appliances were perceived, the company set out to devise and manufacture new ones which would do their work better and faster.

The W-K-M pipe cleaning machine attracted country-wide attention when it was first demonstrated to the Humble Oil & Refining Co. and Prairie Pipe Line Co. By its use two men could clean more pipe in a day than 200 men could by hand, and do better work. Today W-K-M pipe cleaning machines are used throughout the world on major pipe lines, and a number of the pipe mills in this country have been equipped with specially built W-K-M machines for taking off the mill scale from pipe at the time of its manufacture.

L. O. KOEN

No Idle Waiting for Better Times

During the recent period of depressed industrial conditions the W-K-M Co., instead of settling down to idle waiting for better times, busied itself developing a group of oil field appliances, some of which are said to represent revolutionary departures from old methods. Among them is a fixed-load fluid elevator which employs an entirely new principle of applying compressed air to the lifting of fluid from wells. Another presents an original method of controlling wild wells by closing them in at the top of the liner, the operation being either automatic, as in case of fire or accident, or manual. A through-conduit gate valve embodies new principle of operation. A hand-operated pipe cleaning machine has been developed for use in places where a power-driven machine could not be utilized.

The personnel of the company has undergone changes since it was founded 14 years ago. Mr. Williams retired while the organization was still young. His interest was purchased by Mr. McManis, Mr. Keon and D. J. Bryant. Mr. Bryant was active in the concern until the time of his death in 1932. Mr. McManis is president, Mr. Keon vice president, J. D. Rice secretary, and L. C. Witten treasurer.

The company's big machine and assembly shop and its office building are on the line of the Southern Pacific Railroad, giving it excellent shipping facilities. Operating under normal conditions it employs 140 men, in addition to 35 in the sales department. While maintaining an engineering staff engaged in the development of new appliances and the improvement of old ones, the company has continued to handle certain oil field equipment of other manufacturers.

The Oil Man's Calendar

July

19-25—London, England, World Petroleum Congress, Imperial College of Science and Technology, South Kensington.

22-29—Washington, D. C., International Geological Congress.

August

23-26—Atlantic City, N. J., The American Society of Mechanical Engineers, Sixth National Oil and Gas Power Meeting.

28-Sept. 4—Chicago, Society of Automotive Engineers.

September

1-4—Chicago, Society of Automotive Engineers, aeronautic meeting.

20-22—Atlantic City, N. J., National Petroleum Association, thirty-first annual meeting, Traymore Hotel.

25—Chicago, Natural Gas Department, American Gas Association.

25-29—Chicago, International gas conference and fifteenth annual convention, American Gas Association, Stevens Hotel.

27-28—Akron, Ohio, Ohio Petroleum Marketers Association, Hotel Mayflower.

October

Louisville, Ky., Kentucky Petroleum Marketers Association.

24-26—Chicago, Ill., fourteenth annual meeting, American Petroleum Institute.

Kansas City, Mo., Big Four State Independent Oil Jobbers Association.

November

Los Angeles, Calif., American Association Petroleum Geologists, Pacific Section.

December

4—New York, fourteenth Exposition of Chemical Industries, Grand Central Palace.

Great Falls, Mont., Rocky Mountain Oil and Gas Association.

Roanoke, Va., American Institute of Chemical Engineers.

New York, American Society of Mechanical Engineers, National Aeronautic Meeting.

1934

January

18—Oklahoma City, Okla., Okla-Petroleum Marketers Association.

25-26—Sioux Falls, S. Dak., South Dakota Independent Oil Dealers Association.

February

6-7—Des Moines, Iowa, Iowa Petroleum Association.

13-15—Columbus, Ohio, Ohio Petroleum Marketers Association.

Contracts Have Been Let For Cut Bank Pipe Line

CASPER, Wyo., July 10.—Contracts for laying the main line, gathering lines, ditching, loading racks, and tanks in the Santa Rita Oil Co.'s and Winton Construction Co.'s projected joint line from the Cut Bank Field to the Santa Rita's refinery site at Cut Bank have been let. Contract for laying the line was awarded the Winston Brothers Construction Co., contract for tanks and loading racks went to Black, Sivalls & Bryson, Inc., contract for pipe, pumps and engines to the Continental Supply Co., contract for stringing pipe, ditching and back-filling went to John Hall of Great Falls and Fort Shaw, Mont.

L. S. Oaks will superintend construction of the 13-mile 4-inch line which is scheduled to start immediately. Estimated cost is set at $90,000.

PIPE LINE HEARING JULY 31

AUSTIN, Tex., July 8.—The Railroad Commission has for the second time postponed its hearing on rates of oil pipe lines, resetting the case for July 31. The commission expressed hope the lines will submit proposed new tariffs in advance of the hearing.

Refiners are paying premiums today for crude oil—to make straight-run gasoline

Why do that when you can make better gasoline and more of it by Dubbs cracking fuel oil?

There is no premium on fuel oil—there is too much of it

Dubbs cracked gasoline is always at a premium—there is never enough of it

Dubbs cracking pays

Universal Oil Products Co
Chicago Illinois

Dubbs Cracking Process
Owner and Licensor

THE OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPELINE MARKETING

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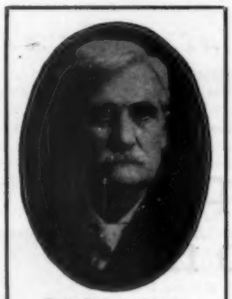

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Member, Audit Bureau of Circulations

New Salesmanship Coming

The new code of fair competition, if carried out, is going to revolutionize the oil industry's notions of competition.

Those who think of competition only as price cutting will be left flat. The industrial recovery law will have repealed all they knew.

Salesmanship in the future will have to have something more in its sample case than chisels.

This is going to be hard on a good many in the oil business but it is sure to be good for the oil industry.

With a ban on selling below cost of production competition and salesmanship hereafter will have to depend upon quality and service instead of mere cheapness.

Getting rid of distress gasoline will no longer be the goal which will be profit not gallonage.

Among the revolutionary things which the new deal is supposed to do to our economic system none will be more revolutionary than the overthrow of gallonage salesmanship at any price.

The question arises what will take its place?

Salesmen under the new code will find the possibility of new accounts rather slim if they are debarred from relying on price cuts to break in. Quality and service may help some, but the salesman who hopes to stay in the business will have to think of new users, new markets for petroleum products.

The oil industry has practically done no pioneering on this line since it sent kerosene lamps to China.

Up to the last year or so it had a steadily increasing market for its principal product and virtually let it go at that.

The demand for gasoline was so great and kept growing so continually without any effort on the part of motor fuel salesmanship to increase it that it was natural enough for the industry to postpone search for markets for its other products.

But the decline in gasoline demand and possibility of saturation being within sight have merely increased the competition for existing gallonage rather than turning attention to opportunities for sales of other products.

With the provisions of the new code imposing further limitations the manufacturing and marketing divisions of the industry will be forced to seek expansion for oil outside the automotive market.

Attention was directed recently to the remarkable growth in the use of range oil burners in New England, where a half million are in use.

The more than a million regular oil burners, like the automobile, have been developed without any real promotion by the oil industry, rather the reverse.

It is not too much to assume that had the oil industry got behind the domestic heating movement ten years ago there would be ten times the number of homes heated by oil as there will be next winter.

Instead, the burner industry was handicapped and discouraged for years by talk of a shortage of oil and the indifference, or indeed opposition of the oil industry to oil being used in what was thought to be price competition with coal.

But the day came when distillate was almost on a parity with gasoline until the recent upward movement in motor fuel.

There is no question of an inferior use of oil as distillate in price competition with coal. Experience has shown that the superiority of oil heating commands a premium over coal heating and that it offers a profitable market for the oil industry.

The chief deterrent to greater popular interest in oil heating has been, and is, doubt about an assured supply over a period of years, justifying the initial expense of installation, and a definite understanding that the price of fuel will not be prohibitive.

The oil industry is in position to give this assurance and to satisfy the prospective consumer he need not fear extortionate prices for his house fuel.

If the public could be as confident of having an assured supply of heating oil at a reasonable cost as it has been with gasoline the oil industry would gain a corresponding market.

The development of the range oil burner is an example of what the oil industry should be doing, devising and providing larger uses for its other products as the gasoline market reaches its peak.

That development, however, arose through the coal man, the ice man and pushcart peddlers who saw an opportunity to earn some money by promoting a new market for oil.

This sort of pioneering salesmanship should not be left to outsiders but should be the constant work of those in the oil industry. There has been too much concentration on competition for the business of those who were already users and too little attention centered on developing new users of oil products.

That will be the main job of salesmanship if the new code stabilizes the gasoline market. The enterprise and initiative that has been devoted to getting existing business away from competitors can be more profitably expended in seeking and developing new business for other products.

With the single exception of the oil industry the great industries which have grown great have so grown because they have unceasingly sought to develop new markets for their products. The electric industry has not been content with lighting. It has developed heating, refrigeration, the radio and countless variations of electrical use in the home as well as in industry.

Has the oil industry been as energetic in developing the fullest possibilities in popular uses of oils? The cigar lighter, instead of being treated as a butt for humorists, might easily drive the match even for household use, into a museum. Comparatively small volume of consumption compared to the billions of gallons of gasoline can be important because of better proportionate return as in cosmetics and sprays and household lubricants.

Sometimes all that is needed to enlarge a use of oil is an improved method of utilization and the oil industry should not wait to have all its potential markets handed to it. The oil salesman of the future will be alert for opportunities and will see that the oil industry meets whatever specifications are required, believing that what helps the user will help the oil business.

New competitive methods compelling intensive study of potential markets may lead to demands for oil products that have never been thought of.

WESTINGHOUSE MOTOR DRIVES

For Low-cost Pumping in East Texas

● SAVE PUMP HOUSE COSTS

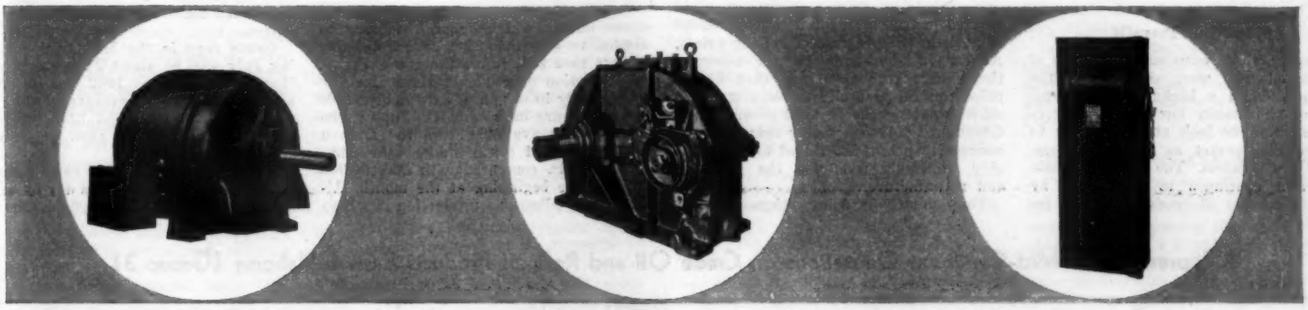
Westinghouse motor drives for well pumping are weather-proof. There is no need for a pump house . . . they operate smoothly and dependably even in blinding rainstorms. This saves you from $100 to $200 per well.

● SAVE ATTENDANCE COSTS

A pumper can look after 25 to 33 per cent more wells when they are driven by electric motors. Simply push a button and the pump starts immediately, summer or winter.

● SAVE MAINTENANCE COSTS

Motor, control and gear unit require only routine inspection. Well maintenance is lower because the smooth flow of electric power greatly reduces rod breakage.



Weather-proof Pumping Motor

Westinghouse Squirrel-cage Motor for outdoor well pumping is immune to Texas rainstorms. High efficiency assures low cost of operation. It is connected to the gear unit by a Cog Belt. Highest quality insulation . . . resists moisture, dust and oil vapor. Heavy cast construction of frame and brackets maintains bearings in permanent alignment. Rotor bars, end rings and blowers are pressure die-cast aluminum, a construction that maintains the rotor in permanent balance. Sealed Sleeve Bearings are oil-tight, dust-tight, and weather-proof. Oil supply lasts from six months to a year or more.

Weather-proof Gear Unit

Westinghouse Gear Units for unit pumping powers are available in either single or twin-crank types. A number of these units have been in service in East Texas for more than a year, and field men report that their performance is the smoothest and quietest in the field. High efficiency, ranging from 96 to 98 per cent. Anti-friction bearings are used throughout and all gears are of the accurately-cut, helical type with special heat treatment that gives long life in pumping service. Gears and bearings are automatically lubricated with clean, filtered oil.

Weather-proof Control

Westinghouse Combination Linestarter and Disconnect Switch . . . with push-button control . . . assures simple, reliable and trouble-proof control of the pumping motor. It is encased in a weather-proof steel cabinet. Heavy-duty fusible disconnect switch in the same cabinet with starter greatly simplifies wiring and reduces installation cost. The "De-ion" principle of arc extinction and rolling contacts reduce arcing and burning to a minimum and practically eliminate sticking of contacts. A thermal overload relay automatically disconnects the motor from the line in case the pumping unit is overloaded.

Westinghouse oil field equipment is distributed by the Oil Well Supply Company and, with the exception of reduction gears, by the National Supply Companies, with offices and stores in all oil fields.

Westinghouse

T-79653

Quality workmanship guarantees every Westinghouse product

Higher Crude Oil Prices and Improved Gasoline Demand Cause Refinery Market Advance

By W. T. ZIEGENHAIN

The higher level of refined oil prices in the Oklahoma market which followed the posting of a 33-cent advance for Mid-Continent crude on July 6 by the Continental Oil Co. and the Sinclair Prairie Oil Marketing Co. seemed destined to be of short duration when on July 8 the larger buyers posted only a 10-cent advance. However, the situation was greatly improved on Monday when the Standard Oil Co. (Indiana) announced a one-half cent gasoline tank wagon and station advance throughout its territory and the Continental Oil Co. revised its schedule of crude prices downward. These two moves were interpreted as meaning that all buyers of crude would adopt the intermediate schedule posted by the Magnolia Petroleum Co., which amounts to a 23-cent advance.

Working under this assumption, gasoline was withheld from the spot market and quotations on Tuesday were above those of a week ago. Natural gasoline shared in the general strength in motor fuels but prices remained at about last week's level. Bright stocks were advanced 1½ cents early in the week and the ground seemed to have been cleared for another fractional advance in neutrals. Gas oils and distillates remained firm in a rather active market as jobbers sought to buy up these materials for storage.

Skepticism Prevails

However, there were many students of the market who were skeptical of the situation. With a background of three years of abnormally low prices, refiners and buyers alike look at each effort to advance the market as something temporary and hopeless. The fact that crude production continues to rise week by week and stocks of crude are being increased instead of reduced causes a lack of push in the program of raising prices. Almost in the same breath, however, those same students agree that higher prices on oil and oil products must be made a part of the Federal government's determined policy of seeing that all basic commodity prices are raised to a reasonably profitable level for the producer and manufacturer.

The job of advancing prices thus becomes one in which Federal aid may be needed to overcome several discouraging factors that still infest the market.

Production of crude in East Texas is still greatly in excess of current demands and stocks are increasing. On June 1, the latest figure available from the Bureau of Mines, total crude stocks were 343,588,000 bbls. compared with 366,499,000 bbls. at the beginning of the month. Although the allowable production has been decreased since then, there has not been a strict enforcement of the order. In July East Texas refiners have scheduled daily average crude runs of about 80,000 bbls. which is a new high for the area. The number of refineries has grown to 49, with several small plants building. Crude is still available in East Texas under the posted price despite the higher prices announced by several important buyers within the past week.

Third grade gasoline is being offered out of this area at prices so far below that asked for the regular grade out of other Mid-Continent plants that any general price raising program will have to provide for disposition of the East Texas output. An increase of 45,000 bbls. in the daily average crude runs for the entire Mid-Continent is also a damaging factor.

However, there are counterbalancing factors of about equal importance. Gasoline consumption has shown a marked increase since the middle of June. One company that operates stations throughout the Middle West witnessed a loss in gallonage for the first five months of this year of close to 7 per cent. By July 8 that company has been able to reduce that loss to less than 2 per cent because of the June and July business. A continuation of the present trend of sales will easily boost the total above a year ago by August 1. Similar expressions have been made by other important marketers.

Crude runs in the Mid-Continent during July will be about 21 per cent more than a year ago but 1932 was an abnormal year and if the average of the three years of 1929, 1930 and 1931 are taken as an index, the July runs are still off about 8 per cent.

In East Texas there has came a change in the attitude of producers day by day as pumping units go into the field. The cost

Refined Market Barometer

Gasoline prices were advanced in practically all refining centers and general strength was being injected into the market through the announcement of a one-half cent increase in the retail prices in the Standard Oil Co. (Indiana) territory Monday and a one-half cent increase in the Standard Oil Co. of Ohio territory effective Thursday. Strength was also given the market as the result of a more general belief that purchasers of Mid-Continent crude would finally agree on the Magnolia Petroleum Co.'s advanced schedule for Oklahoma, Kansas and North Texas and a price of 65 cents would be established for East Texas crude. Bright stock prices were advanced in the Mid-Continent and Pennsylvania. The balance of the market remained firm.

Oklahoma—All grades of gasoline up. Naturals firm but plenty material available at present market. Distillates and gas oil strong. Bright stocks advance 1½ cents and neutrals strong. Wax firm but price unchanged.

Atlantic Coast—Bunker fuel prices advanced 10 cents. Gasoline up slightly. Market held from going higher by indefiniteness of crude price situation in Mid-Continent. Lubricating oils strong.

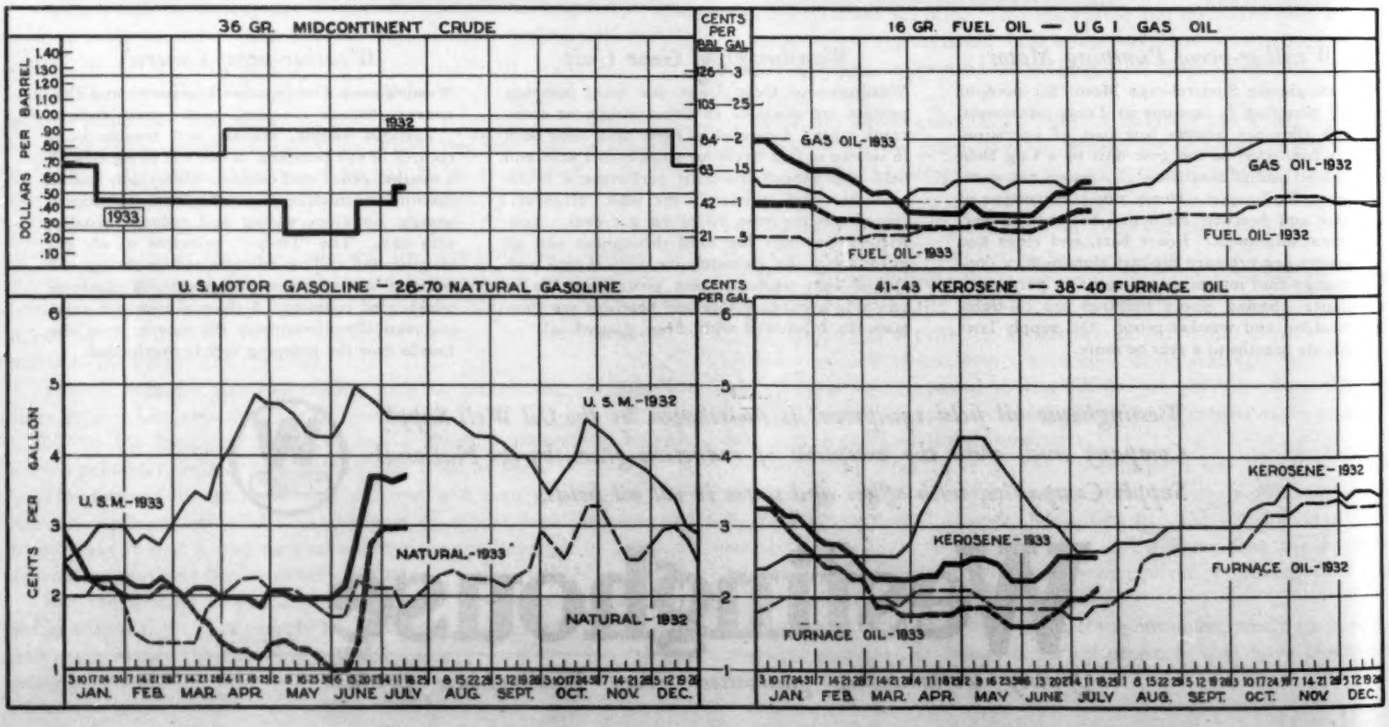
California—Gasoline prices advanced, including naturals. Balance of market strong.

Chicago—Market awaiting definite decision on Mid-Continent crude prices. Third grade gasoline more freely offered. Market prices firm. Trading not especially active.

Pennsylvania—Bright stocks advanced and neutrals strong with balance of products firmly held at last week's price level.

Gulf Coast—Prices at about last week's level with buyers and refiners awaiting decision in Mid-Continent crude price postings.

Representative Mid-Continent Quotations on Crude Oil and Refined Products Basis Oklahoma (Group 3)



of producing the oil is increasing slowly but surely. Profits over the future will be determined more by price per barrel than by the number of barrels daily as it becomes more apparent that even the East Texas Field is exhaustible in time. Also, since the East Texas production now remains as the single disturbing factor in the entire industry and the Federal Government has expressed a determination to regulate industry, some go so far as to predict policing of the field by Federal agents, if other constructive means fail.

Gasoline Prices

Gasoline quotations advanced one-eighth cent on practically all grades of refinery gasoline for the week, with the market firm at this higher level except for third grade competition offered out of East Texas plants. The question arose early in the week as to whether the East Texas surplus would be purchased by larger refiners over July. Large quantities have moved on such purchases but not enough to say the "stuff has been cleaned up."

So, in their effort to boost the price on the middle octane and premium grades, refiners are limited by the wide differential that already exists between these grades and the low octane grade. A differential of three-quarters cent is being maintained between the regular and third grades. The possibility that jobbers may secure contracts from the Ethyl Gasoline Corp. to blend ethyl fluid with the third grade to raise the octane to 60 and above, threatens this wide spread.

The regular grade at 4½ to 4¾ cents and the premium grade at 4¾ to 5 cents seemed likely to move upward less than the third grade at 3¾ to 4 cents, if a general advance in crude prices is evolved over the next few days.

Gas Oil and Fuel Oil

Reflecting a firm market for furnace distillates, the low cold test light colored gas oils were in greater demand and prices were easily maintained at last week's level. The freeness with which fuel oil is being offered out of East Texas together with the fact that crude runs have been increased throughout the Mid-Continent has held fuel oil quotations down despite expected crude price advances.

Bright Stocks and Neutrals

In the past week bright stock prices were advanced 1½ cents and neutrals were actively traded so that a fractional price advance was expected daily. The advance of one-half cent on Tuesday in the price of Pennsylvania bright stock and cylinder stocks added strength to market.

The 150-160 D colored bright stock was being firmly held for 20¾ cents on Tuesday.

Wax Quotations

Wax quotations ranged between 2¼ and 2⅝ cents but new business was faced with high quotations. The industrial demand for wax is increasing and after the early commitments are fulfilled, shipments are expected to be made at higher prices.

Kerosene and Distillates

The 41-43 grade of kerosene was traded at 2⅝ cents in a firm market. Distillates moved upward slightly. Jobbers were buying furnace oil for storage but were insisting on especially good quality and low prices. They were considering color with greater care, particularly color stability and the result has been that actual purchases have been limited in volume.

Montana Supreme Court Rules Against Classifying Oil as a Public Utility

A Montana statute of 1933 which declares that petroleum products such as gasoline, fuel oil, distillates, greases and lubricating oils shall constitute public utilities, and which makes it unlawful to charge or demand a higher price for any product from any person or customer than is being charged any other customer in such state "or an adjoining state" and directs the Public Service Commission of the State within 30 days after the approval of the act to establish one or more differential basal rate points within the State "to be used as a basis for determining gasoline and petroleum product rates" within the State and authorizes the commission to make reasonable rules and regulations regarding the distribution of such products, is held void by the Montana Supreme Court because so ambiguous, uncertain, unintelligible and lacking in definiteness and substance that it is impossible for a seller of gasoline to know what conduct on his part will render him liable to its penal provisions.

The act, according to the decision as reported in the United States Weekly Law Journal, does not provide any measuring stick or prescribe any standard of conduct for the guidance of a seller of such products or the officers of the law, and does not give any information as to what will or will not amount to a justifiable difference in price or what elements and conditions may be taken into consideration in determining price. The statute does not state whether the fact that the gasoline tax is higher in Montana than in an adjoining state or the fact that the cost of doing business in Montana is greater than in an adjoining state or a different price which it is charging in another adjoining state shall constitute the criterion for the price to be charged in Montana where the seller is doing business in more than one adjoining state. The statute is not clarified by the provision respecting the establishment of one or more differential basal rate points "to be used as a basis of determining gasoline and petroleum product rates." It does not undertake to repose in any one the power to determine rates, or prices and omits to give any direction as to how a basal rate point shall be employed in fixing rates. The authority granted the public service commission to make reasonable rules and regulations is limited to the "distribution" of such products. Assuming that it was the intention of the legislature to allow a differential as between basal rate points and other places, the statute does not specify the factors to be considered in determining a proper differential in price.

The statute, if a price fixing measure, is void on the ground that neither the business of selling such products nor the property of a person engaged in such business is affected with a public interest. A business or property in order to be affected with a public interest must be devoted to a public use and its use thereby in effect granted to the public. Business or property which does not come within the affirmative view of such test can not be subjected to price fixing regulation by legislative fiat that the business or property is affected with a public interest. If it were otherwise inalienable rights guaranteed by the Constitution would be at the mercy of legislatures. The declaration in the Montana statute that a standard petroleum product is a "public utility," if intended to declare the business or property "to be affected with a public interest," was ineffectual to clothe the business or property with a public interest so as to warrant the regulation of prices. "If, as in effect contended by counsel for the State, the common callings are clothed with a public interest by a mere legislative declaration, which necessarily authorizes full and comprehensive regulation within legislative discretion, there must be a revolution in the relation of government to general business . . . It will be impossible to reconcile such results with the freedom of contract and of labor secured by the Fourteenth Amendment."

ANNOUNCE "Q" GASOLINE

On July 15 the Standard Oil Co. (Indiana) will begin the sale of Red Crown gasoline of 70 octane number through the use of tetra ethyl lead fluid and will color the product purple.

On July 20 the Pure Oil Co. will also adopt an ethylized gasoline for its second grade. The new motor fuel will be 70 octane number and will be colored a golden amber.

CANFIELD TO ADD TO PLANT

Alco Products, Inc., New York (a division of American Locomotive Co.), has been awarded a contract by the Canfield Oil Co. of Cleveland, Ohio, for the construction of a 1,200-bbl. per day Pennsylvania crude distillation unit at its Coraopolis, Pa., refinery.

Of particular interest is the fact that the unit is designed to produce continuously and simultaneously an overhead gasoline and the following sidestreams: Solvent, kerosene, 300 distillate, gas oil, pressed or wax distillate and cylinder stock bottoms. Provision has been made for the future installation of additional sidestream for the production of heavy wax distillate.

Included in the contract is an additional unit for the production of light distillate specialties. Construction work will commence within a few weeks at Coraopolis.

PENNSYLVANIANS AND CODE

OIL CITY, Pa., July 10.—Directors of the Pennsylvania Grade Crude Oil Association have approved the oil marketers' code adopted at a recent meeting of operators in Chicago, with the exception of rules dealing with the leasing clause.

American Petroleum Institute Weekly Refinery Statistics

Figures below reported for week by American Petroleum Institute. (1) Per cent refinery capacity represented. (2) Daily average crude runs to stills. (3) Total motor fuel stocks. (4) Gas oil and fuel oil stocks. All figures in 42-gallon barrels.

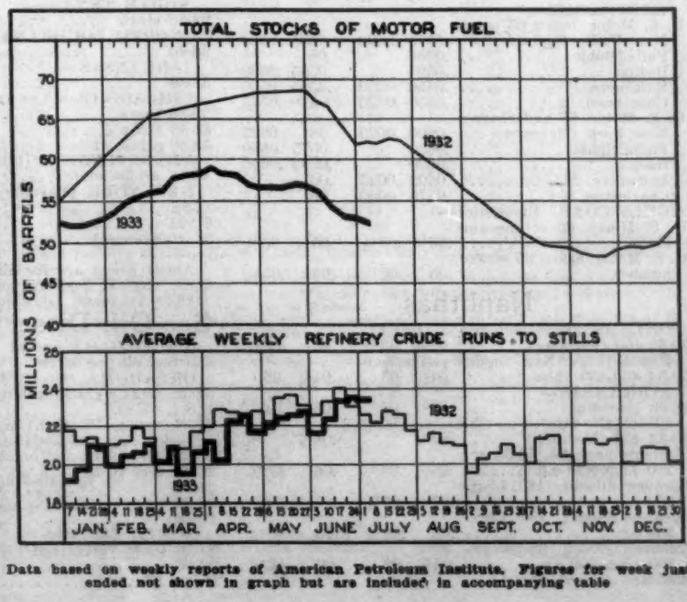
Week Ending July 8, 1933, Compared to Week Ago

	Week Ending July 8, 1933				Week Ending July 1, 1933			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	100.0	439,000	15,184,000	7,329,000	100.0	436,000	15,240,000	7,326,000
Appalachian	92.6	86,000	2,007,000	965,000	92.6	95,000	1,949,000	945,000
Ind., Ill., Ky.	97.3	351,000	7,271,000	4,322,000	97.3	372,000	7,296,000	4,111,000
Okla., Kans., Mo.	81.8	253,000	4,248,000	3,637,000	81.8	250,000	4,308,000	3,470,000
Inland Texas	58.3	86,000	1,263,000	2,054,000	58.3	81,000	1,350,000	2,131,000
Texas Gulf	98.0	438,000	6,190,000	6,634,000	98.0	410,000	5,926,000	6,511,000
Louisiana Gulf	100.0	144,000	1,195,000	2,023,000	100.0	118,000	1,369,000	2,186,000
N. La. and Ark.	92.6	40,000	265,000	504,000	92.6	42,000	240,000	507,000
Rocky Mtn.	78.8	40,000	1,064,000	731,000	78.8	36,000	1,101,000	728,000
California	96.9	468,000	13,481,000	98,824,000	96.9	461,000	13,556,000	98,585,000
Total U. S.	92.2	2,345,000	52,168,000	127,024,000	92.2	2,345,000	52,434,000	126,500,000

Total motor fuel stocks Bureau of Mines basis 54,170,000 bbls.

Week Ending July 8, 1933, Compared to Year Ago

	Week Ending July 8, 1933				Week Ending July 9, 1932			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	100.0	439,000	15,184,000	7,329,000	100.0	444,000	19,143,000	7,311,000
Appalachian	92.6	86,000	2,007,000	965,000	91.8	76,300	2,349,000	1,112,000
Ind., Ill., Ky.	97.3	351,000	7,271,000	4,322,000	98.9	295,600	8,325,000	4,268,000
Okla., Kans., Mo.	81.8	253,000	4,248,000	3,637,000	89.6	225,900	5,116,000	3,372,000
Inland Texas	58.3	86,000	1,263,000	2,054,000	76.5	107,000	1,728,000	2,519,000
Texas Gulf	98.0	438,000	6,190,000	6,634,000	99.8	428,100	5,793,000	7,469,000
Louisiana Gulf	100.0	144,000	1,195,000	2,023,000	100.0	107,600	1,897,000	4,536,000
N. La. and Ark.	92.6	40,000	265,000	504,000	97.0	44,100	240,000	746,000
Rocky Mtn.	78.8	40,000	1,064,000	731,000	89.4	37,700	1,844,000	656,000
California	96.9	468,000	13,481,000	98,824,000	96.7	456,700	15,648,000	99,104,000
Total U. S.	92.2	2,345,000	52,168,000	127,024,000	95.1	2,218,700	62,082,000	131,523,000



Data based on weekly reports of American Petroleum Institute. Figures for week just ended not shown in graph but are included in accompanying table

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement except as otherwise noted

EXCLUSIVE OF TAXES

The following quotations are exclusive of the Federal excise taxes of 1½ cents a gallon on gasoline and 4 cents on lubricating oils, which became effective June 17, 1933.

Refinery Gasolines

OKLAHOMA (Group 3)—	July 11		July 5	
*U. S. Motor grades:				
Regular	.04½	.04¾	.04¾	.04⅝
Premium	.04¾	.05	.04⅝	.04¾
Third grade	.03¾	.04	.03⅝	.04
60-62 400 grades:				
Regular	.04⅝	.04⅞	.04½	.04⅝
Premium	.04⅞	.05⅛	.04¾	
Third grade	.04⅛	.04¼	.03⅞	.04
64-66 390	.04⅝		.04⅛	.04½
64-66 375	.04⅝		.04½	.04⅝
68-70 350	.04¼	.04⅞	.04½	.04⅝
NORTH TEXAS—				
U. S. Motor grades:				
Regular	.04⅝		.04¼	.04½
Premium	.04⅝	.04⅞	.04½	.04¾
Third grade	.03¾	.04	.03⅝	.04
60-62 400	.03⅞	.04⅛	.03¾	.04
64-66 390	.04	.04¼	.04	.04½
64-66 375	.04⅜		.04¼	.04½
64-66 360	.04½	.04¾	.04½	.04¾
†NORTH LOUISIANA—				
U. S. Motor grades:				
Regular	.04⅝	.04⅞	.04½	.04¾
Premium	.04⅞	.05⅛	.04¾	.05
Third grade	.04⅝	.04⅝	.04¼	.04½
60-62 400	.04½		.04⅝	.04½
†ARKANSAS—				
U. S. Motor grades:				
Regular	.04⅝	.04⅞	.04½	.04¾
Premium	.04⅞	.05	.04¾	.05
Third grade	.04⅜		.04¼	.04½
CHICAGO (Based on Oklahoma Group 3)—				
U. S. Motor grades:				
Regular	.04⅜	.04⅝	.04½	.04⅝
Premium	.04½	.04¾	.04⅝	.04¾
Third grade	.03⅝	.04	.03⅝	.04
60-62 400	.03⅞	.04	.04	.04¼
64-66 375	.04½	.04¼	.04¼	.04½
68-70 360	.04¼	.04⅜	.04⅜	.04⅝
Aviation fighting grade	.04⅜	.04⅝	.04½	.04¾

*Octane Ratings—The following octane ratings apply to the three grades of U. S. Motor gasoline: Regular 60-64 octane number; premium, 65 and above octane number; third grade, 59 and below octane number. Octane ratings determined by C.F.R. Motor Method.

†For Arkansas, Louisiana and Mississippi delivery.

PENNSYLVANIA (inland refineries)—				
U. S. Motor	.05¼	.05½	.05¼	.05½
60-62 400	.05⅝	.05½	.05⅝	.05½
64-66 375	.05½		.05½	
68-70 350	.05½	.05¾	.05½	.05¾
CALIFORNIA (domestic movement)—				
54-58 U. S. Motor	.05¾	.07	.05½	.06½
58-60 400	.06½	.07½	.06	.06¾
EAST COAST—				
U. S. Motor, below 65 octane:				
New York (Bayonne)	.0575	.0590	.0565	.0590
Philadelphia	.0605		.06	
Boston	.0595		.0565	.0590
Baltimore	.0550	.0600	.0565	.0590
Charleston, S. C.	.0550	.0575	.0550	.0575
U. S. Motor, 65 and above:				
New York (Bayonne)	.0600	.0625	.06	.0625
Philadelphia	.0630		.0575	.0590
Boston	.0620		.0595	.0620
Baltimore, Md.	.0600	.0625	.06	
Charleston, S. C.	.0575	.0600	.06	
GULF COAST (domestic)—				
U. S. Motor, 65 octane and above	.05¼	.05½	.05¼	.05⅝
U. S. Motor, below 65 octane number	.05	.05¼	.05	.05⅛

Naphthas

OKLAHOMA (Group 3)—	July 11		July 5	
50-52 450 (blending)	.03⅛	.03¾	.03½	.03¾
PENNSYLVANIA (inland refineries)—				
50-54 430-450 (blending)	.04¾	.05	.04¾	.05
†ARKANSAS—				
48-50 (blending)	.03¾	.04	.03¾	.04
CHICAGO (Based on Oklahoma Group 3)—				
50-52 450 (blending)	.03¾		.03¾	
Cleaners' naphtha, 56-58 gr., 200 i.b.p.-320 e.p.	.05¾	.06	.06	.06¼
Lacquer diluent, 180 i.b.p.-250 e.p.	.07	.07¼	.07½	.07¾
Lacquer diluent, 140 i.b.p.-200 e.p.	.08	.08¼	.08	.08½
Rubber solvent, 68-70 gr.-100 i.b.p.-300 e.p.	.05¾	.06	.06	.06¼
Stoddard solvent, 300 i.b.p.-410 e.p., over 83° flash	.05¼	.05½	.05½	.05¾
Pet. thinner, 290-300 i.b.p.-415 e.p., over 83° flash	.05	.05¼	.05	.05¼
V.M.&P. naphtha, 56-58 gr., 190-200 i.b.p.-330 e.p.	.05½	.05¾	.05¾	.06¼
Petroleum spirits	.04½	.04¾	.04½	.04¾

Natural Gasolines

OKLAHOMA (Group 3)—	July 11		July 5	
Grade 18-55	.03¼	.03½	.03¼	.03⅜
Grade 26-70	.03		.03	
Grade 30-70	.02⅞		.02⅞	
*Low pressure grades:				
15 lb. v.p. (max.)	.03½	.03¾	.03⅜	.03⅝
11 lb. v.p. (max.)	.04		.03¾	.04
NORTH TEXAS—				
Grade 18-55	.03¼	.03⅜	.03¼	.03⅜
Grade 26-70	.02⅞	.03	.02⅞	.03
Grade 30-70	.02⅞		.02⅞	
*Low pressure grades:				
15 lb. v.p. (max.)	.03½	.03¾	.03⅜	.03⅝
11 lb. v.p. (max.)	.03⅞	.04	.03¾	
NORTH LOUISIANA—				
Grade 26-70	.03¼	.03½	.03¼	
CALIFORNIA—				
75-78 375	.04	.04½	.03¾	.04½

Kerosenes

(All kerosenes water white)

OKLAHOMA (Group 3)—	July 11		July 5	
41-43	.02⅝	.02¾	.02⅝	.02¾
42-44	.02¾	.03	.02¾	.03
NORTH TEXAS—				
40-41	.02½		.02½	
41-43	.02½	.02¾	.02½	.02¾
†NORTH LOUISIANA—				
41-43	.03		.03	
42-44	.03¼		.03¼	
†ARKANSAS—				
41-43	.03		.03	
PENNSYLVANIA (inland refineries)—				
45	.04½		.04¼	.04⅜
46	.04¼		.04⅜	.04½
47	.04⅜		.04⅝	.04¾
CHICAGO (Based on Oklahoma Group 3)—				
41-43	.02⅝	.02¾	.02¾	.02⅞
42-44	.02¾	.02⅞	.02⅞	.03
*CALIFORNIA—				
38-40 high burning test	.03¾	.04¼	.03½	.04¼
NEW YORK (Bayonne, N. J.)—				
41-43	.05	.05¼	.05	.05¼
GULF COAST (domestic)—				
41-43 water white	.04	.04¼	.04	.04¼

*For Pacific Coast consumption:

†For Arkansas, Louisiana and Mississippi delivery.

Furnace Oils and Tractor Fuels

OKLAHOMA (Group 3)—	July 11		July 5	
32-36 straw	.02½	.02¼	.02	.02¼
36-38 straw	.01⅞	.02⅛	.01⅞	.02⅛
38-40 straw	.02⅛		.02	.02⅛
39-41 prime	.02⅛	.02¼	.02⅛	.02¼
NORTH TEXAS—				
38-40 straw	.02	.02⅛	.02	.02⅛
†NORTH LOUISIANA—				
36-40	.02½	.02¾	.02½	.02¾
†ARKANSAS—				
32-36	.02½	.02⅝	.02½	.02⅝
CHICAGO (Based on Oklahoma Group 3)—				
32-36 straw	.02	.02⅛	.02	.02⅛
38-40 straw	.02⅛	.02¼	.02⅛	.02¼
38-40 prime white	.02¼	.02⅜	.02¼	.02⅜
PENNSYLVANIA (inland refineries)—				
40-41 prime white	.03⅜		.03⅛	.03¼
NEW YORK (Bayonne, N. J.)—				
32-36	.04		.04	
36-40	.05		.05	
21 (industrial)	.03½		.03½	

Above prices are for distillate oils of zero cold test under 190° F. flash and good odor.

†For Arkansas, Louisiana and Mississippi delivery.

Gas Oil, Diesel Oil and Fuel Oil

Gas oil (G.O.) quoted per gallon basis; Diesel oil and fuel oil per barrel.

OKLAHOMA (Group 3)—	July 11		July 5	
32-36 (G.O.) cracking stock	.01¼	.01⅜	.01¼	.01⅜
U.G.I. (G.O.)	.01¼	.01⅜	.01¼	.01⅜
32-36, zero to 15 (G.O.) high flash	.01⅝	.01¾	.01⅝	.01¾
28-30, zero to 10	.70	.75	.70	.75
26-30, zero to 10	.65	.70	.65	.70
24-26	.50	.55	.50	.55
20-22	.45	.50	.45	.50
Below 16	.37½	.42½	.37½	.42½
NORTH TEXAS—				
32-36 (G.O.) industrial	.01¼		.01¾	
22-26	.45	.50	.45	.50
Below 20	.40	.45	.40	.45
†NORTH LOUISIANA—				
32-36 (G.O.) zero	.02½		.02½	
14-16	.35		.35	
†ARKANSAS—				
30-32 (G.O.) zero	.02½		.02½	
14-16	.35		.35	
CHICAGO (Based on Oklahoma Group 3)—				
32-36 (G.O.) industrial	.01⅜	.01½	.01¼	.01⅜
28-30 (zero)	.70	.80	.65	.70
26-28 (zero)	.65	.75	.60	.65
22-26 (zero)	.60	.65	.55	.60
18-22 (zero)	.55	.60	.50	.55
Below 18	.40	.45	.40	.45

Note: Fuel oils of more than 40 cold test generally 5 to 15 cents per barrel less in all areas than shown in above tables.

†For Arkansas, Louisiana and Mississippi delivery.

PENNSYLVANIA (inland refineries)—				
36-40	.03¼		.03¼	
CALIFORNIA—				
30-34 (G.O.) per bbl.	.80	.90	.80	.90
27 plus Diesel	.80	.90	.75	.85
15-19 bunker (at tidewater)	.50	.60	.50	.60
15-19 (cargo lots)	.45	.55	.45	.55
15-19 (tank cars)	.40	.50	.40	.50
GULF COAST—				
28-30 (G.O.)	.03		.03	
28-30 Diesel	1.50		1.50	
Bunker C (bulk cargoes)	.50	.55	.50	.55
Bunker C (bunkers)	.60		.60	
NEW YORK (Bayonne, N. J.)—				
28 plus (G.O.)	.04		.04	
*28-30 Diesel	1.75		1.65	
26-30 Diesel (tank cars)	.04		.04	
‡Bunker C	.80	.85	.70	.75

*Lighterage 6½ cents per barrel.

†Lighterage 5 cents per barrel.

‡Contract price at New York Harbor to ocean-going steamships only.

Petroleum Coke*

Prices per ton f.o.b. refineries in Chicago area.

Breeze (screenings)	4.75	4.50
Still runs	5.75	5.50
Lump and egg	6.75	6.50

*Refineries will absorb freight to 80 cents a ton.

Neutral Oils

(Viscosity at 100° F. and color)

OKLAHOMA (Group 3)—	July 11		July 5	
Zero to 10 Cold Test:				
150-3	.07¼	.07½	.07¼	.07½
180-3	.08½	.08¾	.08½	.08¾
180-4	.08¼	.08½	.08¼	.08½
200-3	.09	.09¼	.09	.09¼
200-4	.08¾	.09	.08¾	.09
240-3	.11	.11¼	.11	.11¼
240-4	.10¾	.11	.10¾	.11
280-3	.12	.12¼	.12	.12¼
280-4	.11½	.11¾	.11½	.11¾
300-3½	.12¾	.13	.12¾	.13
350-3½	.13¾	.14	.13¾	.14
400-4	.14¾	.15	.14¾	.15
500-4½	.15¾	.16	.15¾	.16
100-2 paraffin oil	.05¼	.05½	.05¼	.05½
15-30 Cold Test:				
200-3	.08¼	.08½	.08¼	.08½
200-4	.08	.08¼	.08	.08¼
240-3	.10¼	.10½	.10¼	.10½
240-4	.10	.10¼	.10	.10¼
280-3	.11¼	.11½	.11¼	.11½
280-4	.11	.11¼	.11	.11¼
PENNSYLVANIA—				
150 vis., No. 3, 400-405:				
Zero pour test	.17½	.18	.17½	.18
10 pour test	.17	.17½	.17	.17½
15 pour test	.15½	.15¾	.15½	.15¾
25 pour test	.14¾	.15	.14¾	.15
180 vis., No. 3, 25 pour test	.16¼	.16½	.16¼	.16½
200 vis., No. 3:				
Zero pour test	.20½	.20¾	.20¼	.20½
10 pour test	.19½	.19¾	.19½	.19½
15 pour test	.18½	.18¾	.18½	.18½
25 pour test	.17¾	.18	.17½	.17¾
GULF COAST—				
Pale Oils:				
100-2-2½	.05½		.05½	
200-3	.06¼	.06½	.06¼	.06½
300-3	.07¾	.08	.07¾	.08
500-3½	.09¾	.10	.09¾	.10
750-3½	.10¾	.11	.10¾	.11
1,200-3½	.12¾	.13	.12¾	.13
2,000-4	.14¾	.15	.14¾	.15
Red Oils:				
200-5-6	.05½		.05½	
300-5-6	.06¼	.06½	.06¼	.06½
500-5-6	.07¾	.08	.07¾	.08

750	.12¾	.13	.12¾	.13
1,200-5-6	.12¾	.13	.12¾	.13
2,000-6 plus	.14¾	.15	.14¾	.15
CALIFORNIA—				
Pale Oils:				
100-2½-3	.09	.09½	.09	.09½
200-2½-3	.09½	.10	.09½	.10
300-3-3½	.10½	.11	.10½	.11
350-3-4	.11	.11¼	.11	.11¼
400-3-4	.11¼	.11¾	.11¼	.11¾
450-3-4	.11¾	.12	.11¾	.12
550-3-4	.12	.12½	.12	.12½
Red Oils:				
200-4-5	.09½	.10	.09½	.10
300-5-6	.10½	.11	.10½	.11
350-5-6	.11	.11½	.11	.11½
400-5-6	.11½	.11¾	.11½	.11¾
450-5-6	.11¾	.12	.11¾	.12
500-5-6	.12	.12¼	.12	.12¼
600-5-6½	.12¼	.12½	.12¼	.12½
700-6½ plus	.12½	.12¾	.12½	.12¾
750-6½ plus	.12¾	.13	.12¾	.13
900-6½ plus	.13	.14½	.13	.14½

Bright and Steam Refined Stocks

	July 11		July 5	
OKLAHOMA (Group 3)—				
630 light green	.06¾	.07¾	.06½	.07½
600 light green S.R.	.06¼	.07¼	.06	.07
600 dark green S.R.	.04¾	.05¾	.04½	.05½
Bright Stocks:				
190-200 D	.22½	.23½	.21	.22
150-160 D, 0-10	.20¾		.19¼	
150-160 D, 10-25	.20¼		.18¾	
150-160 D, 25-40	.19¾		.18¼	
150-160 E	.18¾		.17¼	
PENNSYLVANIA—				
600 S.R.	.13¼	.13½	.12¼	.12½
650 S.R.	.15½	.16	.14¼	.14¾
600 Pennsylvania flash	.16½	.16¾	.15½	.16
650 D filtered	.21½	.21¾	.20½	.21
600 E filtered	.16¾	.17¼	.16	.16½
Pennsylvania Grade bright stock:				
No. 8 color, 145-50 vis., at 210; 540-550 flash:				
10 pour test	.25½	.26	.25	.25½
15 pour test	.24	.24½	.23	.23½
25 pour test	.23	.23½	.22	.22½

Wax and Petrolatum

(Prices per pound)

	July 11		July 5	
OKLAHOMA (Group 3)—				
124-126 white crude scale	.02¼	.02⅜	.02¼	.02⅜
PENNSYLVANIA—				
122-124	.02½	.02⅝	.02½	.02⅝
124-126	.02⅝	.02¾	.02⅝	.02¾
NEW YORK HARBOR—				
120-122 (a.m.p. basis)	.0325		.0325	
125-127	.0330		.0350	
130-132	.0410		.0410	
133-135	.0475		.0475	
135-137	.0500		.0500	
Petrolatum in barrels in carload lots:				
Dark green	.01⅞		.01⅞	
Amber	.02		.02	
Extra amber	.02⅜		.02⅜	
Lily white	.05½		.05½	
Snow white	.06½		.06½	
Cream	.04½		.04½	
CHICAGO (f.o.b. switching district)*—				
122-124	.0365	.0375	.0365	.0375
125-127	.0390	.0400	.0390	.0400
127-129	.0405	.0415	.0405	.0415
130-132	.0465	.0475	.0465	.0475
132-134	.0490	.0500	.0490	.0500

*Cents per pound on carlot orders in burlap bags of 225 lbs. approx.
Add 3° F. for a.m.p.

Export Prices

GASOLINE

GULF COAST—	July 11	July 5
U. S. Motor	.04½	.04½

60-62 400	.04¾		.04¾	
61-63 390	.04¾		.04¾	
64-66 375	.04⅞	.05	.04¾	.05
LOS ANGELES, CALIF.—				
U. S. Motor, 53-55 437 e.p.	.03¾	.04¼	.03¾	.04¼
U. S. Motor, 65 octane	.04½	.04¾	.04½	.04¾
U. S. Motor, 67 octane	.05		.05	
U. S. Motor, 69 octane	.05¼		.05¼	
58-60 400 endpoint gasoline	.04¼	.05	.04¼	.05
KEROSENE				
GULF COAST—				
41-43 prime white	.04		.04	
41 water white	.04¼		.04¼	
LOS ANGELES, CALIF.—				
41-43 water white	.03¾	.04¼	.03¾	.04¼
LUBRICANTS				
NEW YORK (f.a.s. in bbls.)—				
600 Warren E	.23		.23	
600 S.R. unfiltered	.19¼		.19¼	
650 S.R. unfiltered	.21½		.21½	
600 flash S.R.	.22½		.22½	
630 flash S.R.	.27½		.27½	
Bright stock, No. 8 color	.29		.29	
Bright stock, No. 6½ color dil.	.28½		.28½	
NEUTRALS				
NEW YORK—Pale Engine Oil, Bulk (vis. at 100)—				
230-3¾	.09¾		.09¾	
180-3½	.09½		.09½	
100-2¼	.05		.05	
Red Engine Oil, Bulk (vis. at 100):				
300-6½	.09½		.09½	
250-6	.08½		.08½	
200-6	.07¾		.07¾	
PARAFFIN WAX (Fully Refined)				
NEW YORK (prices per pound)—				
123-125 a.m.p.	.03125		.03125	
125-127 a.m.p.	.0325		.0325	
130-132 a.m.p.	.0375		.0375	
133-135 a.m.p.	.0425		.0425	
135-137 a.m.p.	.0450		.0450	

Crude Oil Prices

Oklahoma, Kansas, North and East Central Texas

East Texas (see note)	$.75
East Texas (see note)	.80
Corsicana (heavy) (June 17, 1933)*	.30
Other fields	(See gravity table)

Note—Effective July 6, Sinclair Prairie Oil Marketing Co. posted 75 cents; effective July 6, Empire Oil & Refining Co., 75 cents; effective July 7, Magnolia Petroleum Co., 75 cents; Sun Oil Co., 75 cents; June 17, East Texas posted by Sinclair Prairie Oil Marketing Co., Stanolind Crude Oil Purchasing Co., Magnolia Petroleum Co. Effective June 19, Texas Co., Tide Water Oil Co., Panola Pipe Line Co., Humble Oil & Refining Co., Gulf Pipe Line Co.
*Magnolia Petroleum Co.

West Texas

Crane, Upton, Crockett, Howard, Glasscock, Mitchell, Ector, Winkler and Pecos Counties (see note)	$.30
Lea County, N. Mex. (June 19, 1933)	.30
Toborg, Pecos County (June 20, 1933)*	.25
Jones and Fisher Counties	See gravity table

Note—Effective July 7, Magnolia Petroleum Co., 45 cents; June 19, Crane, Upton, etc., posted by the Texas Co., Magnolia Petroleum Co., Gulf Pipe Line Co., Humble Oil & Refining Co. Lea County, effective June 19, Texas Co. and other purchasers.
*Shell Petroleum Corp.

Gulf Coast

Grade A and Grade B specifications discontinued by leading buyers	See gravity table
Tomball (June 19, 1933)*	$ .65
Livingston (June 20, 1933)†	.50
Refugio light	(See gravity table) (Gulf Coast)*
Refugio heavy (June 19, 1933)*	.45
Markham and High Island	(See gravity table) (Gulf Coast)
Conroe	(See gravity table)*

*Humble Oil & Refining Co., Markham by Texas Co., and High Island by Yount Lee Oil Co. †Shell Petroleum Corp.

South Central and Southwest Texas

Darst Creek (June 19, 1933)	See note
Mirando (June 19, 1933)	See note
Luling (July 7, 1933)	$.50
Pettus (June 19, 1933)	.55
Salt Flat (June 19, 1933)	.40
Lytton Springs (July 7, 1933)	.60
Duval County (June 22, 1933)	.40

(Continued on Page 30)

Crude Oil Gravity Table

	Oklahoma, Kansas, North Central and East Central Texas	Oklahoma, Kansas, North Central and East Central Texas	Oklahoma, Kansas, North Central and East Central Texas	Oklahoma, Kansas, North Central and East Central Texas	North Louisiana and Arkansas	Gray County, Texas	Gray County, Texas	Gray County, Texas	Carson, Hutchinson and Moore Counties	Carson and Hutchinson Counties, Texas	Carson and Hutchinson Counties, Texas	Conroe, Texas	Salt Creek, Wyo.	Gulf Coast, Texas and Louisiana	Gulf Coast, Texas and Louisiana	Caddo, Louisiana	Homer, Louisiana	Haynesville, Louisiana	Sabine, DeSoto, Sarepta-Carterville, Louisiana	El Dorado, Arkansas
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Below 20	....	....	....	....	....	....	....	....	....	....	....	....	....	$.32	$.32	....	....	....	....	....
20-20.9	....	....	....	....	....	....	....	....	....	....	....	....	....	.34	.34	....	....	....	....	....
21-21.9	....	....	....	....	....	....	....	....	....	....	....	....	....	.36	.36	....	....	....	....	....
22-22.9	....	....	....	....	....	....	....	....	....	....	....	....	....	.38	.38	....	....	....	....	....
23-23.9	....	....	....	....	....	....	....	....	....	....	....	....	....	.40	.40	....	....	....	....	....
24-24.9	....	....	....	....	....	....	....	....	....	....	....	....	....	.42	.42	....	....	....	....	....
Below 25	....	$.43	$.30	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
25-25.9	....	.45	.32	....	....	....	....	....	....	....	....	....	....	.44	.44	....	....	....	....	....
26-26.9	....	.47	.34	....	....	....	....	....	....	....	....	....	....	.46	.46	....	....	....	....	....
27-27.9	....	.49	.36	....	....	....	....	....	....	....	....	....	....	.48	.48	....	....	....	....	....
28-28.9	....	.51	.38	....	....	....	....	....	....	....	....	....	....	.50	.50	....	....	....	....	....
Below 29	$.61	....	.38	$.28	$.28	$.49	....	....	$.39	....	....	....	$.38	....	.	$.36	$.32	$.29	$.35	$.37
29-29.9	.63	.53	.40	.30	.30	.51	....	....	.41	....	....	....	.40	.52	.52	.38	.34	.31	.37	.39
30-30.9	.65	.55	.42	.32	.32	.53	....	....	.43	....	....	....	.42	.54	.54	.40	.36	.33	.39	.41
31-31.9	.67	.57	.44	.34	.34	.55	....	....	.45	....	....	....	.44	.56	.55	.42	.38	.35	.41	.43
32-32.9	.69	.59	.46	.36	.36	.57	....	....	.47	....	....	....	.46	.58	.56	.44	.40	.37	.43	.45
33-33.9	.71	.61	.48	.38	.38	.59	....	....	.49	....	....	....	.48	.60	.57	.46	.42	.39	.45	.47
34-34.9	.73	.63	.50	.40	.40	.61	....	....	.51	....	....	....	.50	.62	.58	.48	.44	.41	.47	.49
Below 35	....	....	....	....	....	....	$.57	$.34	....	....	....	....	....	....	....	....	....	....	....	....
35-35.9	.75	.65	.52	.42	.42	.63	.59	.36	.53	$.47	$.29	$.59	.52	.62	.59	.40	.46	.43	.49	.51
36-36.9	.77	.67	.54	.44	.44	.65	.61	.38	.55	.49	.31	.61	.54	.62	.60	.42	.48	.45	.51	.53
37-37.9	.79	.69	.56	.46	.46	.67	.63	.40	.57	.53	.35	.63	.56	.62	.61	.44	.50	.47	.53	.55
38-38.9	.81	.71	.58	.48	.48	.69	.65	.42	.59	.55	.37	.65	.58	.62	.62	.46	.52	.49	.55	.57
39-39.9	.83	.73	.60	.50	.50	.71	.67	.44	.61	.57	.39	.67	.60	.62	.63	.48	.54	.51	.57	.59
40 and over	.85	.75	.62	.52	.52	.73	.69	.46	.63	.59	.41	.69	.62	.62	.64	.50	.56	.53	.59	.61

Column 1—Effective July 6, Continental Oil Co., Sinclair Prairie Oil Marketing Co., Empire Oil & Refining Co., Barnsdall Refineries, Inc., in Oklahoma; Philtex Oil Co. (Phillips Petroleum Co.) in Oklahoma and Kansas; Vickers Refining Co., Dickey Refining Co., Derby Oil Co. and Kanotex Refining Co. in Kansas. Effective July 7, Pure Oil Co. in Oklahoma and East Central Texas, including the Van Field; White Eagle Oil Corp. in Kansas; Skelly Oil Co. in Kansas.

Column 2—Effective July 7, Magnolia Petroleum Co. in Oklahoma, North and East Central Texas. Effective July 11, Continental Oil Co. in Kansas, Oklahoma and North Texas. Effective July 11, Kanotex Refining Co. and White Eagle Oil Corp. in Kansas; Empire Oil & Refining Co. in Kansas and Oklahoma; Sinclair Prairie Oil Marketing Co. in Kansas, Oklahoma, North Central and East Central Texas; Pure Oil Co. in Oklahoma; Philtex Oil Co. in Oklahoma and Kansas; Skelly Oil Co. in Kansas.

Column 3—Effective July 6, Carter Oil Co. in Kansas and Oklahoma; Stanolind Crude Oil Purchasing Co. in Kansas, Oklahoma, North Central and East Central Texas; Tide Water Oil Co. in Oklahoma. Effective July 8, Texas Co. in Oklahoma; Shell Petroleum Corp. in Kansas and Oklahoma; Mid-Continent Petroleum Co. in Oklahoma; Rock Island Refining Co. in Oklahoma; H. F. Wilcox Oil & Gas Co. in Oklahoma; Champlin Refining Co. in Oklahoma.

Column 4—Effective June 19, Deep Rock Oil Co., Globe Oil & Refining Co., Golden Rule Refining Co. in Oklahoma; Eldorado Refining Co. in Kansas; Gypsy Oil Co. in Oklahoma and Kansas; Gulf Pipe Line Co. in Texas; Humble Oil & Refining Co. in Texas; Texas Co. in Texas.

Column 5—Effective June 19, Texas Co., Gulf Refining Co., Louisiana Oil & Refining Co. Effective June 20, Magnolia Petroleum Co. Effective June 19, Stanolind Oil & Gas Co. in Pine Island district, Louisiana, and Marion County, Texas, posted below 29 gravity, 26 cents, with 2-cent spread upward to 40 gravity and over, 50 cents. For Standard Oil Co. of Louisiana prices see Columns 16 to 20.

Column 6—Effective July 6, Philtex Oil Co., Sinclair Prairie Oil Marketing Co.

Column 7—Effective July 7, Magnolia Petroleum Co. Effective July 11, Sinclair Prairie Oil Marketing Co.

Column 8—Effective June 19, Humble Oil & Refining Co., Gulf Pipe Line Co. and Texas Co.

Column 9—Effective July 6, Philtex Oil Co.

Column 10—Effective July 7, Magnolia Petroleum Co. Effective July 11, Sinclair Prairie Oil Marketing Co.

Column 11—Effective June 19, Humble Oil & Refining Co., Gulf Refining Co. and Continental Oil Co.

Column 12—Effective June 19, Humble Oil & Refining Co. Effective June 22, Texas Co. and Tide Water Oil Co.

Column 13—Effective June 17, Stanolind Oil & Gas Co.

Column 14—Effective June 17, Sinclair Prairie Oil Marketing Co. Effective June 19, Humble Oil & Refining Co. and Gulf Pipe Line Co.

Column 15—Effective June 19, Texas Co. Effective June 20, Magnolia Petroleum Co. in Lockport, Louisiana, while in Cameron Meadows and Iowa, Louisiana, it posted below 30 gravity, 23 cents, with 2-cent differential upward to 34 and above at 53 cents.

Columns 16 to 20—Effective June 19, Standard Oil Co. of Louisiana.

TANK WAGON MARKETS

Quotations for gasoline and kerosene in United States, as furnished by the larger marketing concerns, include taxes

July 12, 1933

Taxes

The gasoline quotations given in the following tables include the 1½-cent Federal tax effective June 17, 1933, as well as state, county and city taxes. The gasoline quoted is the regular or standard grade. In most marketing areas a third or competitive grade is generally available at 1 or more cents per gallon under the service station price for the regular grade. Ethyl Gasolines are sold 2.5 to 3 cents above the service station price for the regular grade.

Southern District

STANDARD OIL CO (KENTUCKY)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Inc'ls tax of	Kero. tank wagon
Atlanta, Ga. ..	21.0	21 0	7.5	10.0
Augusta	21 0	21.0	7 5	9.0
Macon	20.0	20.0	7.5	13 0
Savannah	22.0	22 0	7 5	14.0
Birm'ham, Ala..	24 0	24 0	8.5	13 0
Mobile	22.0	22 0	8.5	8 0
Montgomery ...	25 0	25.0	8.5	14 0
Jackson, Miss..	21 0	21.0	7.5	11.0
Vicksburg	21.0	21 0	7 5	11.0
Jack'ville, Fla..	21 0	21.0	8 5	12.5
Miami	22.0	22 0	8.5	13 5
Pensacola	19.0	19.0	8.5	13 5
Tampa	22.0	22.0	8.5	12.5
Lexington, Ky..	21.0	21 0	6 5	10.0
Covington	20.0	20.0	6.5	11.5
Louisville	19.0	19.0	6.5	10.0
Paducah	21.0	21.0	6.5	9.0

In addition to the state tax of 4 cents on gasoline, Montgomery has city and county tax of 3 cents on gasoline and one-half cent on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fortieth cent on gasoline. To Pensacola, Montgomery and Birmingham state taxes add 1-cent tax. To Mobile state tax add 1-cent city tax. Dealers receive discount of 8 cents off tank wagon price throughout territory.

Southwestern District

MAGNOLIA PETROLEUM CO.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Inc'ls tax of	Kero. tank wagon
Dallas, Tex. ...	15.0	17.5	5.5	7.5
Fort Worth ...	15.0	17.5	5.5	7.5
Houston	15.0	17.5	5.5	8.0
El Paso	15.0	18.0	5.5	8.0
San Antonio ...	15.5	18.0	5.5	8.0
Texarkana *16.0		18.0	5.5	†11.0
Muskogee	15.5	17.0	5.5	6.5
Okla City.	15.0	17.0	5.5	7.5
Tulsa	15.0	17.0	5.5	6.5
Ft. Smith, Ark..‡16.4		16.4	5.5	†9.0
Little Rock ...‡19.9		19.9	7.5	†10.0

*Less 2½ cents to dealers. †Less 2 cents to dealers. ‡Less 4½ cents to dealers.

Standard Oil Co. (Indiana)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Inc'ls tax of	Kero. tank wagon
Chicago	15.6	15 6	4 5	8 5
Decatur, Ill. ...	16 0	16.0	4 5	9.0
E. St. Louis ...	16 3	16.3	4.5	8 3
Joliet	16 0	16 0	4.5	9.0
Peoria	16.0	16.0	4.5	9 0
Quincy	15.8	15 8	4 5	8 8
Davenport, Ia. .	16.1	16 1	4 5	9.1
Des Moines ...	16 1	16.1	4.5	9 1
Mason City ...	16 1	16 1	4 5	9.1
Sioux City	15 7	15 7	4.5	8 7
Duluth, Minn. .	16.7	16.7	4 5	9 3
Mankato	16.3	16 3	4 5	9 3
Minneapolis ...	16.4	16 4	4 5	9.3
LaCrosse, Wis..	17.8	17.8	5 3	9 8
Green Bay	17 2	17 2	5.5	9.2
Milwaukee	16 7	16.7	5.5	8 7
Madison	16 9	16 9	5 5	9.9
Detroit, Mich. .	16.5	16.5	4 5	9 5
Grand Rapids .	16.2	16 2	4 5	9 2
Saginaw	16.5	16.5	4 5	9.5
Evansville, Ind.	17 0	17 0	5 5	9 0
Indianapolis ...	17.2	17 2	5 5	9 2
South Bend ...	17.5	17.5	5 5	9.5
Fargo, N. Dak.	18.1	18 1	4 5	10 6
Huron, S. Dak.	18 2	18 2	5 5	9.4
Sioux Falls ...	17.9	17.9	5.5	10.1
K. C., Mo.* ...	15 2	15 2	4 5	7.7
Springfield* ...	15.1	15.1	4.5	8 1
St. Louis	14.2	14.2	4.0	7 7
St. Joseph*	14.8	14.8	4.5	7.3
Wichita, Kans.	14.1	14 1	4 5	7.1
Bartlesville, Ok.	15.0	18.0	5.5	8.3

*State tax 2 cents, 1-cent city tax and 1-cent Federal tax.

Effective June 1, 1933—Discounts off tank wagon price to consumers on 500 gallons or more per month in territory outside of Chicago metropolitan area: 2 cents on Ethyl and Red Crown gasolines, and 1 cent on Stanolind gasoline. One-half cent additional discount in Chicago division.

Effective July 1, 1933—Discounts on resellers authorized agent's agreement made off the service station price throughout the territory as follows: 2.5 cents on Red Crown Ethyl and Standard Red Crown gasolines, and 1.5 cents on Stanolind gasoline. Half of reduction from normal service station price shall be absorbed by reseller up to maximum of 1 cent on all grades.

Stanolex Furnace Oil in Chicago

Effective June 27, 1933, prices f.o.b. Chicago, tank wagon prices: No. 1 (36-40 lt. stw. zero), under 100 gallons, 7¾ cents; No. 2 (30-34 stw. zero), 7¼ cents; No. 3 (22-26 zero), 6¾ cents; No. 4 (12-16 zero), 5¾ cents, Viscosity of No. 4, 90-115 at 100° F.; No. 5, 5½ cents; for deliveries of 100 gallons or more deduct 1 cent.

Naphtha

	Tank Wagon	Tank Car
Oleum spirits	10.7	6.23
V.M.&P. naphtha	12.7	6.73
Cleaners' naphtha	13.0	9.23
Stanisol	13.0	9.23

Tank wagon prices f.o.b. Chicago, January 6, 1932. Each of above prices subject to discount of 1 cent per gallon for 150-gallon lots if covered by contracts.

Atlantic Coast District

(Effective June 28)

STANDARD OIL CO. (NEW JERSEY)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Inc'ls tax of	Kero. tank wagon
Atl'tic City N.J.	17.7	18.7	4.5	11.2
Newark	17.0	18.0	4.5	8.5
Annapolis, Md..	18.3	19.3	5.5	9.0
Baltimore	17.8	18.8	5.5	8.0
Cumberland ...	19.3	20.3	5.5	11.7
Wash'g'n, D. C.	16.0	17.0	3.5	10.0
Danville, Va. ..	20.4	21.4	6.5	9.9
Norfolk	18.9	19.9	6.5	10.3
Petersburg	19.7	20.7	6.5	11.4
Richmond	19.3	20.3	6.5	10.7
Roanoke	20.5	21.5	6.5	11.0
Charle'n, W.Va.	18.7	19.7	5.5	11.6
Parkersburg ..	18.0	19.0	5.5	10.3
Wheeling	18.7	19.7	5.5	11.2
Charlotte, N. C.	22.1	23.1	7.5	12.5
Hickory	22.4	23 4	7.5	12.7
Mt. Airy	22.4	23.4	7.5	12.8
Raleigh	21.9	22.9	7.5	12.3
Salisbury	22.2	23.2	7.5	12.6
Charleston, S.C.	19.9	20.9	7.5	10.3
Columbia	21.7	22.7	7.5	12.2
Spartanburg ..	22.1	23.1	7.5	12.5

Note—Dealer contracts for gasoline are written at 2½ cents over the posted tank car price. The posted tank car price is the sum of the tax and 7.5 cents subtracted from service station price. A 2-cent discount allowed for cash at all service stations. Kerosene 1 cent off tank wagon for 25 gallons or more under contract except New Jersey and Baltimore, Md.

New York and Part of New England District

STANDARD OIL CO. (NEW YORK)*

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Inc'ls tax of	Kero. tank wagon
Albany, N. Y. .	17.7	18.7	4 5	9.0
New York	17.2	18 2	4 5	8 0
Buffalo	17 9	18 9	4 5	9.0
Rochester	18.0	19 0	4.5	9.0
Syracuse	18 0	19.0	4.5	9.5
Boston, Mass. .	17 2	18 2	4 5	8.0
Augusta, Me. ..	18.7	19.7	5 5	9.0
Manch'tr, N. H.	19 4	20.4	5.5	8 0
Burlington, Vt..	20.0	21.0	5.5	8 5

*All service station prices subject to 2-cent discount for cash.

Central South District

STANDARD OIL CO. (LOUISIANA)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Inc'ls tax of	Kero. tank wagon
N. Orleans, La..	17.8	18.8	*7.5	†11.0
Baton Rouge ..	17.0	18.0	6.5	†10.0
Alexandria	17.9	18.9	7.5	†8.5
Lafayette	18.1	19.1	7.5	†10.0
Lake Charles ..	18.0	19.0	7.5	†10.0
Shreveport	15.8	16.8	6.5	†11.0
Knoxville, Tenn.	21.7	22.7	8.5	12.5
Memphis	20.1	21.1	8 5	10.0
Chattanooga ...	21 4	22.0	8 5	10.0
Nashville	21.0	22.0	8 5	10.0
Bristol	21.6	22.6	8.5	13.0
Lt. Rock, Ark..	18.9	19.9	8.5	10.0

*Includes city tax of 1 cent. †Louisiana kerosene prices include 1-cent state tax. New Orleans kerosene price also includes 1-cent city tax.

Effective June 2, 1933, station price fixed at 7 cents above basic tank car price at key refining points in territory. Discount to cash customers 2 cents off station price. Commercial consumers for tank wagon delivery pay following amounts over tank car price basis yearly deliveries:

1,000 to 75,000 gallons	2.5
75,000 to 300,000 gallons	1.5
Over 300,000 gallons	1.0

Nebraska

STANDARD OIL CO. (NEBRASKA)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Inc'ls tax of	Kero. tank wagon
Omaha	16.8	17.8	5.5	8.5
McCook	18.3	19.3	5.5	9.0
Norfolk	17.3	18.3	5.5	8.5
N. Platte	18.3	19.3	5.5	9.5
Scottsbluff	18.3	19.3	5.5	10.0

Note — Dealers' discount allowed as follows: Red Crown Ethyl, 2 cents off station price; Red Crown, 2½ cents off normal service station price; Nebraska Blue (third grade), 1 cent off normal service station price.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA*

	Gasoline: Tank truck†	Gasoline: Posted retail	Gasoline: Incl'ds tax of	Kero. tank wagon
Fresno, Calif. ..	17.5	20.0	4.5	14.0
San Francisco .	17.0	19.5	4.5	12.5
Los Angeles ...	16.0	18.5	4.5	13.5
Reno, Nev.	20.5	23.0	5.5	15.5
Portland, Ore...	20.0	22.5	5.5	13.5
Seattle, Wash...	20.0	22.5	6.5	13.5
Tacoma	20.0	22.5	6.5	13.5
Spokane	23.0	25.5	6.5	18.0
Phoenix, Ariz. .	19.0	21.5	6.5	‡16.0

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Above prices are at company's plant or depots as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 1 cent. ‡Includes 5-cent state tax.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Inc'ls tax of	Kero. tank wagon
Denver, Colo. ..	17.0	19.0	5.5	11.5
Pueblo	17.0	19.0	5.5	13.0
Grand Jnctn. ..	19.0	21.0	5.5	13.0
Casper, Wyo ..	18.0	20.0	5.5	10.5
Cheyenne	17.0	19.0	5.5	13.0
Butte, Mont. ..	21 5	23 5	5 5	17.5
Billings	23.0	25.0	6.5	16.0
Great Falls ...	23.0	25.0	6.5	17.5
Helena	23.0	25.0	6.5	17.5
Salt Lake, Utah	18.0	20.0	5.5	16.0
Albu'que, N. M.	18.0	20.5	*7.5	13.0
Boise, Idaho ..	22.0	24.0	6.5	18.0
Twin Falls	22.0	24.0	6 5	18.0

*One-cent city tax.

Effective June 1, 1933, dealers and lease and license accounts will receive 2½ cents discount on regular gasoline in Montana, Colorado, Wyoming, Utah and Idaho.

Ohio

STANDARD OIL CO. (OHIO)*

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Inc'ls tax of	Kero tank wagon
Ohio points ...	17.0	*20.0	5.5	11.5

*Two-cent discount allowed for cash.

Pennsylvania-Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Pittsburgh, Pa.	15.0	16.0	4.5	9.0
Philadelphia ..	15.0	15.5	4.5	9.0
Scranton	15.0	16.0	4.5	9.0
Allentown	15.0	16.0	4.5	9.0
Altoona	15.0	16.0	4.5	9.5
Erie	15.0	16.0	4.5	9.5
Dover, Del. ...	15.0	16.0	4.5	9.0
Wilmington ...	15.0	16.0	4.5	9.0
Springf'd, Mass.	17.8	18.8	4.5	8.0
Worcester	17.7	18.7	4.5	8.0
Boston	17.2	18.2	4.5	8.0
Providence, R.I.	16 0	17.0	3.5	8.0
Hartford, Conn.	16.6	17.6	3.5	8.0
New Haven	16.4	17.4	3.5	8.0

Discount schedule effective November 1, 1933. In Delaware and Pennsylvania, 2 cents off station price on purchases of 2,000 gallons or more per month, in remainder of territory 1 cent. Wholesale discount 2½ cents per gallon on monthly deliveries of 20,000 to 100,000 gallons, 3 cents on 100,000 to 300,000 gallons, and 3½ cents on more than 300,000 gallons.

Canada*

IMPERIAL OIL, LTD.

Imperial 3-Star Gasoline

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Inc'ls tax of	Kero. tank wagon
Hamilton, Ont..	23.5	25.5	6.0	15.5
Toronto, Ont. .	23.5	25.5	6.0	15.5
Brandon, Man...	29.0	33.5	7.0	17.5
Winnipeg, Man.	26.0	29.5	7.0	17.5
Regina, Sask. .	29.0	33.0	6.0	21.5
Saskatoon, Sask.	31.0	35.0	6.0	23.5
Edmonton, Alta.	29.5	33.5	6.0	23.5
Calgary, Alta..	26.0	30.0	6.0	19.0
Vancouver, B.C.	26.5	29.5	7.0	22.5
Montreal, Que. .	22.0	25.0	6.0	15.0
St. Johns, N.B. ..	24.5	28.5	7.0	20.5
Halifax, N.S. ..	23.5	27.5	6.0	20.5

*Imperial gallon used in Canada.

TANK WAGON CHANGES

(Regular Grade Only)

Standard Oil Co. (Indiana) advanced the gasoline tank wagon and station prices one-half cent throughout its territory July 11.

Atlantic Refining Co. advanced the gasoline tank wagon and station prices .2 cent throughout Massachusetts and Delaware July 1. On July 5 these prices were advanced one-half cent each in Providence, R. I.

Continental Oil Co. reduced the gasoline tank wagon and station prices 1½ cents in Butte, Mont., July 2.

Standard Oil Co. of Kentucky advanced the gasoline tank wagon and station prices 1 cent in Atlanta, Ga., Augusta and Macon on June 28 and another 1 cent in Atlanta and Augusta on July 1. On June 28 these prices were advanced 1 cent in Mobile, Ala., Birmingham and Montgomery and 2 cents on July 3 in Mobile. On June 28 a 1-cent advance was posted in Vicksburg, Miss., and Jackson. On June 26 these prices were advanced 1 cent in Louisville, Ky., and Covington. On June 28 these prices were advanced 1 cent in Jacksonville, Fla., Miami, Pensacola and Tampa and another 1 cent in Miami July 1.

Effective July 13, the Standard Oil Co. of Ohio will advance the tank car and retail prices one-half cent. The higher prices are not reflected in the accompanying table.

CRUDE OIL PRICE CHANGES

See Page 8 for changes in crude prices.

Imperial Oil Co. to Honor the Inventor of Kerosene

CHATHAM, Ontario, July 8.—Attention was recently called by W. H. Piers, curator of the Nova Scotia Museum at Halifax, to the fact that Dr. Abraham Gesner, reputed discoverer of kerosene, was buried in an unmarked grave at Camp Hill Cemetery in that city. Though his discovery resulted in one of the world's largest industries, Doctor Gesner died in comparative poverty and obscurity on April 29, 1864. Directors of Imperial Oil, Ltd., have provided a fund as a result of which a suitable monument will be erected.

Doctor Gesner was born at Cornwallis, Nova Scotia, about 1790, studied medicine in London, but soon after his return to Nova Scotia in 1824 he turned his attention to scientific pursuits. He made numerous geological explorations and reports for the legislatures of that time and was Indian commissioner in 1850.

He early interested himself in the development of artificial illuminants from hydrocarbons, and in 1851 experimented with Trinidad asphalt from which he produced an illuminating oil. Subsequently he distilled a suitable lamp oil from cannel coal and bituminous shale. This product he named keroselain, later shortening the name to kerosene.

In 1853 he went to New York and took out several patents for the manufacture of kerosene, but disposed of them to the New York Kerosene Co. and supervised the erection of the company's extensive works. A considerable shale oil or "coal oil" industry developed in the Atlantic states and the maritime provinces, but the discovery of free oil by drilling a few years later destroyed much of the value of Doctor Gesner's processes.

NEWS FOR SALES DEPARTMENTS

Sinclair to Distribute 3,000,000 Maps for Fair

To meet tremendous demand for World's Fair route information, Sinclair Refining Co. has issued 3,000,000 new road maps showing main highways from coast to coast, with a mileage table giving the distances to Chicago from key cities in all parts of the United States, and the distance from any one of these cities to any other one.

The maps chart approximately 250,000 miles of surfaced roads all over the United States and show the location of more than 14,000 cities and towns ranging from a population of 100 upwards. Each map has a marginal cross index and an alphabetical list of the cities and towns in the state, with their population figures, as well as index figures which by reference to the marginal index makes it a simple matter to find the roads to any given point.

NEW LAKE TANKER FOR SHELL

CHATHAM, Ontario, July 8.—A new type of oil tanker, a barge, built at the yards of Swan, Hunter, Wigham & Richardson at Wallsend-on-Tyne, England, arrived at Montreal recently for Dominion Tankers, Ltd., and is being placed on the Shell Oil Co. lake service. The "Peter G. Campbell" has hull, frames, beams and bulkhead electrically welded throughout. The vessel arrived in tow of the German sea-going tug "Ajax" and was 44 days en route. She is 179 feet long, 34-foot beam and will carry 1,700 tons of oil in four main tanks, each of which is divided in two by longitudinal bulkheads. The oil pipes are so arranged that any compartment can be filled independently of others and the discharge of oil can take place simultaneously over each side of the vessel.

The appearance of the vessel is remarkable, as there are no overlapping seams as in the case of riveted ships. The plates of the hull, the decks and the bulkheads had their edges abutted and then welded, leaving a flush surface. Deck fittings, such as bollards, ventilator necks and hatch coamings, were also welded. The hull is comparable with the pressed-steel body of an automobile.

NEW USE FOR PARAFFIN WAX

NEW YORK, July 10.—A new outlet for paraffin wax on the Pacific Coast has been opened as a result of experiments just successfully concluded by the Luckenbach line in the shipment of California oranges.

A consignment of 7,500 cases of oranges, dipped in paraffin by a new process and shipped in ordinary dry storage for the first time in history, is now afloat for New York on the steamship Dorothy Luckenbach.

Previously oranges have always been shipped to the Atlantic Coast in refrigerated holds or in air-cooled ventilated storage, and because of the high cost of shipments made in this manner most California oranges have been moving eastward by rail.

REVISE MARKET COMMITTEE

H. W. Dodge, Texas Co., and J. D. Collins, Tide Water Oil Co., have been appointed to membership on the general committee, division of marketing, of the American Petroleum Institute, according to announcement of W. T. Holliday, chairman of the general committee. Mr. Dodge succeeds W. S. S. Rodgers of the same company, and Mr. Collins succeeds E. L. Shea also of the Tide Water Oil Co.

Road Tests Prove That Alcohol Blend Is Uneconomical Compared to Gasoline

Alcohol blended with gasoline as a motor fuel will cost the farmer more than the benefits he will receive through the sales of his products as a base material but determined efforts are still evident in the program of a few to force Federal action on the proposition when the Congress is again in session.

The investigation of alcohol blends have recently followed along the line of comparative road tests and the Co-operative Fuel Research Committee, composed of research leaders in the automotive and petroleum fields, along with representatives of large purchasers, is offering the following summary of results it has found from tests just completed:

"Comparing gasoline and the proposed 10 per cent alcohol mixture in the same gasoline, the following are established facts:

"1. Acceleration is the outstanding performance characteristic demanded by the public and carburetors are set for this. For equal acceleration the fuel consumption with the blend is approximately 4 per cent higher than with the straight gasoline. This statement is based on measured performance in cars and corresponds to the heat content of the respective fuels.

"2. Engine starting is more difficult with the alcohol blend. The tendency to vapor lock is greater with the blend and still greater if adjusted to give equal starting ability.

"3. The alcohol blend has a higher antiknock value of approximately 5 octane units but at a much higher cost per unit than by other available means.

"4. The tendency of alcohol to absorb moisture from the air and the water which normally accumulates in gasoline during storage and service is frequently sufficient to cause separation of the alcohol from gasoline.

"5. If alcohols were desirable as fuels for blending, the petroleum industry could produce them at less cost from petroleum than they can be produced from corn or other agricultural products. Technically speaking, ethyl alcohol is less desirable than the higher alcohols for blending with gasoline.

"The committee desires to point out that there are other problems arising from the use of alcohol blends such as corrosion of engine and fuel pipe lines, and the effect of the solvent action of the blends. It also calls attention to the fact that less horsepower hours are available per dollar in blends than in gasoline, but refrains from stressing these economic facts or such other aspects as low enforcement, tax evasion or reasons for using alcohol in countries which have no petroleum resources.

"The above facts are drawn from a mass of contributing data, collected from the automotive and petroleum industries and the Bureau of Standards, now being formulated into a more elaborate and detailed technical report, including a program of proposed experimental research directed toward clarifying controversial points. This report will be made available to you later, but for present use we believe the above brief statement will best serve your purpose."

HUMBLE RECEIVES ARMY ORDER

NEW YORK, July 10.—Humble Oil & Refining Co. has received a War Department award for a considerable quantity of gasoline for delivery to the quartermaster at Fort Sam Houston. The quantities and prices are as follows: 49,000 gallons of gasoline for Brooks Field at 5¼ cents; 189,000 gallons for Fort Sam Houston, 5¼ cents; 70,000 gallons of gasoline for Kelly Field at 5¼ cents; 28,000 gallons of gasoline for San Antonio Arsenal at 5¼ cents; 28,000 gallons for Duncan Field at 5¼ cents; 371,000 gallons for Randolph Field at 5¼ cents; 70,000 gallons for Fort Brown, 7.16 cents; and 28,000 gallons for Fort Ringgold, at 8 cents.

Sinclair Refining Co. has received War Department orders for 620,000 gallons of gasoline for Fort Sill at 6.55 cents; 12,000 gallons for Hatbox Field at 5.66 cents; and 35,000 gallons for the Reno Quartermaster Depot at 5.66 cents; 1 per cent.

Standard Oil Co. (Indiana) has been awarded an order for 252,000 gallons of gasoline for delivery to Fitzsimmons Hospital at 7.09 cents; 210,000 gallons for Fort Logan at 6.69 cents; and 119,000 gallons for Fort F. E. Warren at 6¾ cents.

Annealing oil orders have been awarded as follows, all for delivery to Frankford Arsenal, Philadelphia, Pa.: Sun Oil Co., 30,000 gallons at 3.73 cents; Atlantic Refining Co., 20,000 gallons at 3.73 cents; and Crew-Levick Co., 20,000 gallons at 3.73 cents.

AMERICAN OIL TO EXPAND

The American Oil Co. is planning to open a number of additional stations in Charlotte, N. C., in the near future.

MAIL CARRIERS NOT EXEMPT

AUSTIN, Tex., July 10.—The Texas attorney general's department ruled that owners of vehicles carrying U. S. mail under contract, or on the rural free delivery service were not exempt from payment of the state gasoline tax.

Exemption would be granted if the U. S. Government is to pay for the gasoline either on requisition or by reimbursement of the purchaser, the department held.

It was held in another opinion that gasoline sold to an army post for resale to officers and enlisted personnel also was subject to the state tax unless the sale was was made in the pursuit of governmental business.

UNION OIL SELLS INTEREST

LOS ANGELES, Calif., July 11.—Union Oil Co. announces sale of its one-half interest in Union Atlantic Co., an Australian-New Zealand marketing organization composed jointly of Union Oil Co. and Atlantic Refining Co. Union reports a profit of $1,350,000 as result of the sale, this being the difference between the net amount received and book value of Atlantic Union's stock. Union declines to name the purchaser at the present time.

CHECK-CHART EXPANDS

The Check-Chart Corp., headed by Ray Shaw, has taken larger quarters and has added to its personnel. The corporation is now occupying the entire frontage of the building where it started at 624 South Michigan Avenue, Chicago. A very important change in the recent enlargement is the appointment of E. A. Petrtyl as general manager.

Motor Fuel Consumption Off 7 Per Cent in April

The consumption of motor fuel was 7 per cent less in April of this year than for the same month a year ago, according to the American Petroleum Institute which uses state tax returns as a basis for compilation. Ohio, Wisconsin, Illinois, Indiana, Iowa, South Dakota and Texas showed marked declines while increases were shown in Arkansas, Delaware, the District of Columbia, Mississippi, Oregon, Utah and Virginia. Although this reduction approximates 100,000,000 bbls. for the month, the total consumption is considered favorable and it is known that subsequent figures will mark April of this year as one during which consumption was abnormally low.

Following are the tabulated consumption figures in gallons for the two months in question:

MOTOR FUEL CONSUMPTION BY STATES

	Gallons	
	April, 1933	April, 1932
Alabama	10,416,000	12,265,000
Arizona	5,718,000	6,121,000
Arkansas	10,281,000	9,052,000
California	112,978,000	117,074,000
Colorado	12,400,000	14,510,000
Connecticut	17,819,000	19,430,000
Delaware	3,121,000	2,992,000
Dist. of Columbia	9,116,000	8,919,000
Florida	17,387,000	18,697,000
Georgia	16,322,000	16,642,000
Idaho	3,932,000	4,116,000
Illinois	75,196,000	82,129,000
Indiana	33,478,000	39,854,000
Iowa	29,251,000	37,941,000
Kansas	20,251,000	21,334,000
Kentucky	13,033,000	13,148,000
Louisiana	12,202,000	13,795,000
Maine	5,878,000	6,851,000
Maryland	15,024,000	16,444,000
Massachusetts	41,326,000	45,658,000
Michigan	57,572,000	64,371,000
Minnesota	34,373,000	34,946,000
Mississippi	9,561,000	9,264,000
Missouri	37,657,000	38,356,000
Montana	6,290,000	7,433,000
Nebraska	16,333,000	19,339,000
Nevada	1,924,000	1,964,000
New Hampshire	4,049,000	4,416,000
New Jersey	56,337,000	57,204,000
New Mexico	4,001,000	5,798,000
New York	118,980,000	123,769,000
North Carolina	18,940,000	18,654,000
North Dakota	10,320,000	13,190,000
Ohio	68,737,000	80,830,000
Oklahoma	21,300,000	22,392,000
Oregon	11,943,000	11,977,000
Pennsylvania	82,170,000	93,227,000
Rhode Island	7,110,000	8,064,000
South Carolina	8,807,000	8,968,000
South Dakota	8,218,000	12,161,000
Tennessee	15,565,000	15,099,000
Texas	59,840,000	62,526,000
Utah	4,414,000	3,654,000
Vermont	2,495,000	2,864,000
Virginia	19,282,000	18,823,000
Washington	18,593,000	20,322,000
West Virginia	9,863,000	10,682,000
Wisconsin	29,256,000	34,032,000
Wyoming	2,453,000	2,768,000
Total	1,220,458,000	1,312,476,000
Daily average	40,682,000	43,749,000
Change from previous year:		
Total decrease	92,018,000	.....
Percentage decrease in daily average	—7.0%	.....

USE SEALED CANS NATIONALLY

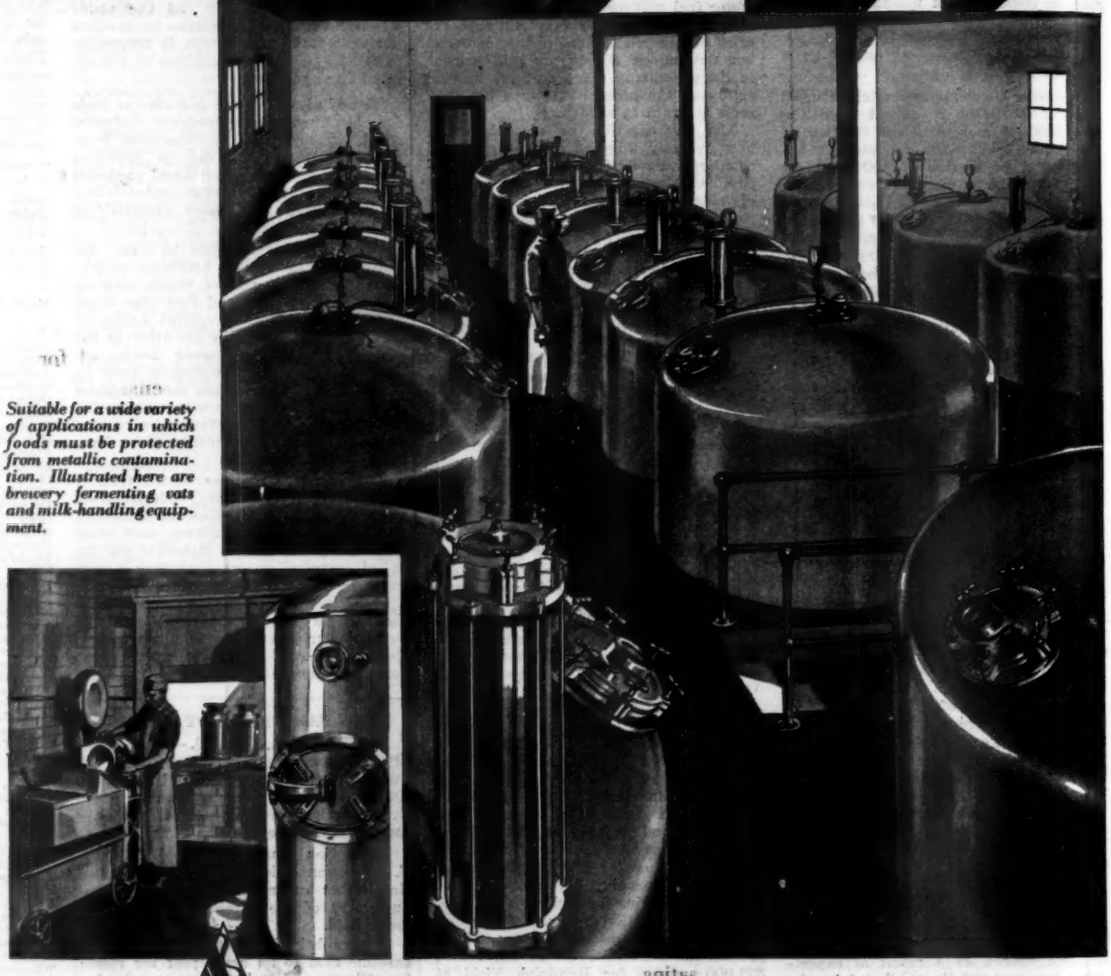
In furtherance of its plan to market all lubricants in factory sealed cans, the Sinclair Refining Co., today placed an order with the Continental Can Co. for 4,000,000 cans.

The idea of selling lubricants in sealed cans, which was started last February in Wisconsin and Illinois as a means of combating the bootlegger, has met with such success that the company decided to put it on a nationwide basis.

RESIGNS POST WITH A.P.I.

Paul E. Hadlick, secretary of the American Petroleum Institute's division of marketing since its organization in 1930, has announced his resignation. He will leave the post August 1, but has made no definite decision as to future plans.

USS PLY



Suitable for a wide variety of applications in which foods must be protected from metallic contamination. Illustrated here are brewery fermenting vats and milk-handling equipment.

A composite steel plate offering the advantages of Stainless Steel at a materially lower price . . .

Plykrome is a two-ply plate of which the surface veneer is USS 18-8 Stainless Steel and the heavier backing is mild carbon steel.

For breweries, food products plants, and other industries where a plate that is corrosion-resistant on one side is suitable for tanks and other types of equipment, Plykrome presents great opportunities for economy.

It is unaffected by atmospheric corrosion, sea water, dilute nitric acid, fruit acids, alkalies, and many other corrosive chemicals. It will not contaminate food products or other materials.

KROME

With the pure iron bond sheet—an entirely new principle in the production of Stainless Clad Steels . . . . . .

Plykrome is the only Stainless Clad Steel employing the pure iron bond sheet between the Stainless veneer and the mild steel backing. Other methods of fabricating a stainless clad steel either weld the Stainless veneer directly to the base plate, or alloy the two together by means of casting.

Note these important advantages of Plykrome:

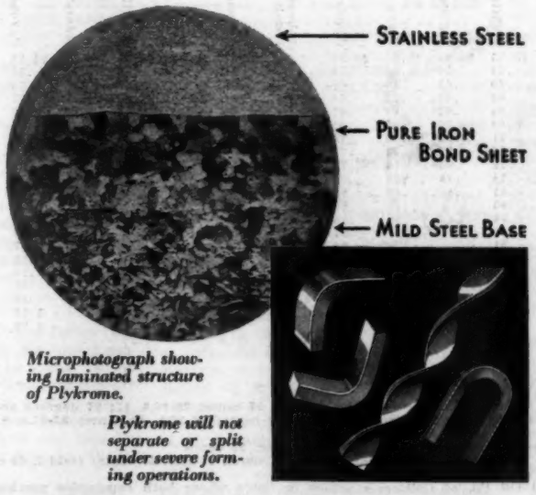
1. The pure iron bond sheet prevents any migration of carbon from the mild steel base into the Stainless Steel veneer. Thus the surface of Plykrome retains *all* of the resistance to corrosion characteristic of pure Stainless Steel.

2. The pure iron bond sheet forms an intermediary alloy of the Stainless Steel to the pure iron and of the pure iron to the mild steel backing. Such a union is superior to the direct alloy of Stainless and mild steel. Hence in Plykrome there is no danger of the Stainless Steel separating from the backing.

3. The pure iron bond sheet accommodates the two metals to one another, thus compensating for their differing physical qualities and preventing warping, splitting or cracking during severe forming, drawing or heating operations.

Plykrome is suitable for all types of equipment in which corrosion resistance is required only on one side. It may be riveted or welded for tanks and similar boiler shop equipment. It may be drawn, spun, beaded, formed and soldered for vats, pressure vessels, cooking utensils, etc., with the same equipment used in handling deep drawing steels. It may be bent or cold rolled. It will not oxidize at any temperatures below the scaling point of USS 18-8, about 1600 degrees Fahrenheit.

For complete metallurgical information and advice on the application of Plykrome to specific requirements, write to Illinois Steel Company.



Microphotograph showing laminated structure of Plykrome.

Plykrome will not separate or split under severe forming operations.

Illinois Steel Company

208 S. LA SALLE STREET, CHICAGO, ILLINOIS

SUBSIDIARY OF UNITED STATES STEEL CORPORATION

U S S CHROMIUM-NICKEL ALLOY STEELS ARE PRODUCED UNDER LICENSES OF THE CHEMICAL FOUNDATION, INC., NEW YORK, AND FRIED. KRUPP A. G. OF GERMANY

Continental Oil Leads in Compromise Effort

(Continued from Page 8)

Ohio. It is understood that the Buckeye Pipe Line Co. will handle Wooster crude for the South Penn Oil Co. and that the Corning, Ohio, price will prevail there. The Illinois Pipe Line has withdrawn its lines from the greatly diminished field around Montpelier and Bryant. The Ohio Oil Co. sold its own production and this and other production there will be trucked out.

The Ashland Refining Co. posted a 15-cent increase in the Somerset, Kentucky, Field on July 8, bringing the price up to 75 cents and the Stoll Oil Refining Co. in Hart County, Kentucky, raised its price to $1 on July 7.

Rocky Mountain Benefited

In the Rocky Mountain area the Ohio Oil Co., Stanolind Oil & Gas Co. and Producers & Refiners Corp. increased prices on July 8 and Iles, light, is now bringing the producer 50 cents per barrel; Iles, heavy, 44 cents; Big Muddy, 55 cents; Frannie, light, 41 cents; Frannie, heavy, 30 cents; Grass Creek, light, 72 cents; Elk Basin, 72 cents; Rock Creek, 54 cents; Torchlight, 72 cents; Greybull, 72 cents; Sunburst, 90 cents; Hogback, 75 cents; Salt Creek and Dutton Creek from 38 to 62 cents, and Lost Soldier, 42 cents.

The Magnolia Petroleum Co., along with its 23-cent increase in Oklahoma and North Central and East Central Texas, advanced prices in the Southwest and West Texas. Luling was increased to 50 cents, a 20-cent advance; Lytton Springs, 60 cents, a 15-cent increase, and Darst Creek and Mirando, 55 cents, a 15-cent increase. In the West Texas fields the new Magnolia price is 45 cents per barrel, a 15-cent advance.

East Texas Advanced

The Sinclair Prairie Oil Marketing Co. on July 6 raised its East Texas price to 75 cents, a 25-cent increase and it was followed by the Empire Oil & Refining Co., Magnolia Petroleum Co. and the Sun Oil Co.

Continental Seeks Compromise

It was not until late Monday, July 10, that the deadlock was broken. The Continental Oil Co. announced a schedule of prices from below 29 gravity upward to 40 degrees and over, which were the same as the Magnolia Petroleum Co.'s schedule from 28 degrees upward. It was made effective July 11. It was a 23-cent increase over the old general schedule of prices. While issuing no formal statement with the announcement, the Continental Oil Co. is understood to have felt that in as much as the company had initiated the price rise and found that it had not met with a general response, it should be the first to break the deadlock in an attempt to reach a compromise schedule of prices. The Barnsdall Refiners, Inc., which had previously met the first Continental rise in prices, followed the example of the Continental company in adopting the Magnolia schedule, making it effective July 11.

Effective July 11, the Empire Oil & Refining Co. and the Sinclair Prairie Oil Marketing Co. joined with the Continental Oil Co. in meeting the Magnolia Petroleum Co. price schedule in the hope of bringing the Humble, Gulf, Carter, Gypsy and other hesitant buyers into a uniform price line. Late Tuesday the Pure Oil Co., Philtex Oil Co., and Skelly Oil Co. met the Magnolia prices.

IN MEMORY OF HARRY H. SMITH

Services in memory of Harry H. Smith, late general secretary of the Mid-Continent Oil and Gas Association, were held in Trinity Episcopal Church in Tulsa on Monday, July 10. President J. D. Collett of the association presided and tributes were spoken by Mr. Collett, James A. Veasey, Carter Oil Co.; W. P. Z. German, Skelly Oil Co., and T. C. Johnson of Wichita, Kans. Rev. E. H. Eckel, Jr., rector of the church, pronounced the benediction.

A set of resolutions eulogizing the late Mr. Smith were read and adopted.

Crude Oil Prices

(Continued from Page 25)

Saxet (June 19, 1933) ..... .45

Note—Effective July 7, Magnolia Petroleum Co., 55 cents in Darst Creek and Mirando; Darst Creek, Gulf Pipe Line Co. and Humble Oil & Refining Co., 40 cents; effective June 22, Texas Co., Magnolia Petroleum Co., 40 cents; Mirando, Magnolia Petroleum Co., 35 cents; Humble Oil & Refining Co., 40 cents. Pettus and Salt Flat by Humble and Gulf companies; Luling and Lytton Springs, by Magnolia Petroleum Co. Duval and Saxet, by Texas Co.

North Louisiana and Arkansas

Smackover, Ark. (all grades).....See note
Urania, La. (Jan. 20, 1933).....$ .25
East El Dorado, Ark. (June 19, 1933)..
.....See note
Other fields.....See gravity table

Note — Smackover, all grades, effective June 19 by Texas Co., 30 cents; June 19, Standard Oil Co. of Louisiana, 25 cents; June 20, Magnolia Petroleum Co., 30 cents; Gulf Refining Co., 30 cents; Louisiana Oil Refining Corp., 30 cents. Urania Field posted by Louisiana Oil Refining Co. and H. L. Hunt, Inc., East El Dorado, effective June 20, Magnolia Petroleum Co., 30 cents; Gulf Refining Co., 30 cents; Phil Tex Oil Co., effective June 19, posted 30 cents for all grades in Union and Ouachita Counties, Ark.

Eastern States

SOUTH PENN OIL CO.
(Effective July 6, 1933)

Pennsylvania Grade Oil in National Transit Lines (Bradford Field) $1.70
Pennsylvania Grade Oil in Southwest Pennsylvania Lines 1.37
Penna Grade Oil in Eureka Pipe Line Lines 1.32
Penna Grade Oil in Buckeye Pipe Line Lines 1.17
Corning Grade Oil in Buckeye Pipe Line Co.'s lines (June 27, 1933) ..... .70

TIDE WATER PIPE CO.
(Effective July 6, 1933)

Bradford, Pa. $1.70
Allegany, N. Y. 1.70

PURE OIL CO.
(Effective July 6, 1933)

Cabin Creek, W. Va. $1.32
Bradford Hollow, W. Va. 1.32

PENNZOIL CO.
(Effective July 6, 1933)

Pennsylvania Grade Oil in National Transit Lines:
Group A $1.62
Includes Cochran, Franklin, Hamilton and Doolittle districts.
Group B 1.61
Includes Titusville district.
Group C 1.60
Includes Turkey and Tidioute districts.
Group D 1.59
Includes Bear Creek and Porkey districts.
Group E 1.49
Includes Eldensu, Bull Creek, Rough Run, Carbon, Dipner, Bredin, McJunkin, Jameson, Kennerdell, Emlenton, Tiona, Lacy and Kinsua districts.
Price depends on length of pipe line haul to plant at Oil City.

Rocky Mountain States

Iles, light (July 8, 1933) ..... $.50
Iles, heavy (July 8, 1933) ..... .44
Florence, Colo. (June 17, 1933) ..... .30
Fort Collins and Wellington, Colo. (June 17).....(See Salt Creek prices)
Cat Creek, Mont. (June 17, 1933)..... .62
Big Muddy (July 8, 1933)† ..... .55
Frannie, light (July 8, 1933) ..... .41
Frannie, heavy (July 8, 1933) ..... .30
Salt Creek and La Barge (July 8, 1933) .....
See Stanolind Mid-Continent price schedule
Grass Creek, light (July 8, 1933) ..... .72
Grass Creek, heavy (Dec. 16, 1932)..... .46
Elk Basin (July 8, 1933) ..... .72
Rock Creek (July 8, 1933)† ..... .54
Dutton Creek (July 8, 1933).....
.....See Mid-Continent gravity prices.
Lance Creek (Dec. 16, 1932) ..... .92
Poison Spider (Mar. 5, 1931)..... .70
Hudson (June 2, 1931)..... .65
Lander (Mar. 5, 1931)..... .40
Rex Lake (Feb. 22, 1930)..... 1.10
Osage (Jan. 13, 1933)..... .83
Lost Soldier (July 8, 1933) ..... .42
Hamilton Dome (Dec. 16, 1932).. .94
Torchlight (July 8, 1933) ..... .72
Greybull (July 8, 1933) ..... .72
Pondera (June 17, 1933) ..... .76
Sunburst (July 8, 1933) ..... .90
Hogback, N. Mex. (July 8, 1933) ..... .75
Lea County, N. Mex. (See Note) ..... .30
Maljamar (June 19, 1933) ..... .35
Artesia-Jackson (June 19, 1933) ..... .35

Note—Salt Creek, Cat Creek, Dry Creek, Dallas-Derby, Hudson, Greybull, Hogback, and Iles by Stanolind Oil & Gas Co. and remainder by Ohio Oil Co. Both companies posted Grass Creek light and Elk Basin. Lost Soldier posted by Producers & Refiners Corp. Artesia, Jackson and Maljamar posted by Continental Oil Co. Lea County, effective June 19, by all purchasers; Fort Collins, Wellington, Orchard, Florence, Big Muddy, Cat Creek, Rattlesnake and Table Mesa by Continental Oil Co. Osage posted by Arro.
*Continental Oil Co. †Ohio Oil Co.

Middle Western States

OHIO OIL CO.
(Effective July 5, 1933)

Lima $1.05
Wooster.....Posting discontinued
Illinois 1.00
Indiana.....Posting discontinued July 14
Princeton 1.00
Plymouth .....Shut in
Western Kentucky ..... .95
Midland, Mich. (May 8, 1933)* ..... .75
Somerset, Ky. (July 8, 1933) ..... .75
Hart County, Ky. (July 7, 1933) 1.00
Muskegon, Mich. (Mar. 27) .....See note

*Posted by Pure Oil Co. Producers Pipe Line Co. pays 5 cents per barrel over Pure Oil Co.'s posted price. Muskegon: All companies pay $1 per barrel effective March 27. Somerset, Ky., crude purchased by Ashland Refining Co., Ashland, Ky. and posted price includes premium. Hart County, Kentucky, crude purchased by Stoll Refining Co.

Canada

Ontario (Jan. 18, 1933):
Petrolia* $1.75
Oil Springs* 1.55
Turner Valley†:
Crude oil, 31°-35.9° (Jan. 24, 1933).... 1.41
Crude oil, 36°-49.9° (Jan. 24, 1933).... 1.90
Crude oil, 50° up (Jan. 24, 1933)..... 2.41
Discolored naphtha (Jan. 24, 1933)... 2.15
Crude naphtha (Jan. 24, 1933)..... 2.53

*Imperial Oil, Ltd. †Imperial Oil, Ltd. and Regal Oil & Refining Co.

Mexico

Panuco* $0.375

*F.o.b. ship, based on May transactions and exclusive of production and export taxes and bar dues.

California Crude Oil Prices

STANDARD OIL CO. OF CALIFORNIA
(Effective June 26, 1933)

For current purchases of crude oil at the well (unless otherwise specified). (All gravities above those quoted take highest price offered in that field.

	Signal Hill	Seal Beach, Alamitos Heights	Huntington Beach	Inglewood	Playa Del Rey*	Olinda-Brea Canyon	Athens, Rosecrans, Dominguez	Torrance	Richfield	Whittier, La Habra	Montebello	Coyote Hills	Santa Fe Springs	Midway-Sunset, Elk Hills, Buena Vista Hills	Lost Hills	Coalinga
14-14.9	$0.55	$0.55	$0.55	$0.55	$0.55	$0.55	...	$0.55	$0.55	$0.55	$0.55	$0.55	...	$0.52	$0.52	$0.52
15-15.9	.55	.55	.58	.58	.55	.58	...	.55	.55	.55	.55	.55	...	.52	.52	.52
16-16.9	.55	.55	.60	.61	.58	.61	...	.57	.55	.57	.55	.55	...	.52	.52	.52
17-17.9	.57	.55	.63	.64	.61	.64	...	.60	.59	.60	.55	.57	...	.52	.52	.52
18-18.9	.60	.56	.65	.67	.64	.67	...	.63	.62	.62	.55	.60	...	.52	.56	.52
19-19.9	.63	.60	.68	.70	.67	.69	...	.65	.66	.65	.55	.63	...	.54	.59	.52
20-20.9	.66	.63	.71	.73	.70	.72	...	.68	.69	.68	.55	.65	...	.57	.62	.53
21-21.9	.69	.67	.73	.77	.73	.75	...	.70	.72	.71	.58	.68	$0.60	.61	.65	.56
22-22.9	.71	.70	.76	.80	.76	.77	...	.73	.75	.74	.60	.71	.64	.65	.68	.59
23-23.9	.74	.73	.78	.83	.79	.80	$0.68	.75	.78	.76	.64	.73	.67	.69	.70	.61
24-24.9	.77	.77	.81	.86	.82	.83	.71	.78	.82	.79	.67	.76	.70	.72	.73	.64
25-25.9	.80	.80	.83	...	.85	.85	.76	.80	.85	...	.71	.79	.73	.76	.76	.67
26-26.9	.82	.83	.86	...	.88	.88	.79	.83	.88	...	.75	.82	.76	.80	.79	...
27-27.9	.85	.87	.88	...	...	.91	.82	...	.92	...	...	.84	.80	.83	.81	...
28-28.9	.88	.90	.91	...	...	.94	.86	...	.95	...	...	.87	.83	.87	.84	...
29-29.9	.90	.92	.93	...	...	...	.89	...	.98	...	...	.90	.86	.91	.87	...
30-30.9	.93	.97	.96	...	...	...	.92	...	...	...	...	.93	.89	.95	.89	...
31-31.9	...	...	...	...	...	...	.97	...	...	...	...	.95	.92	.98	...	...
32-32.9	...	...	...	...	...	...	1.00	...	...	...	...	.98	.96	1.02	...	...
33-33.9	...	...	...	...	...	...	...	...	...	...	...	1.01	.99	1.06	...	...
34-34.9	...	...	...	...	...	...	...	...	...	...	...	1.03	1.02	...	...	...
35-35.9	...	...	...	...	...	...	...	...	...	...	...	...	1.05	...	...	...
36-36.9	...	...	...	...	...	...	...	...	...	...	...	...	1.08	...	...	...
37-37.9	...	...	...	...	...	...	...	...	...	...	...	...	1.11	...	...	...
38-38.9	...	...	...	...	...	...	...	...	...	...	...	...	1.14	...	...	...

Elwood—F.o.b. ship, 25-25.9 degrees, 91 cents; 34-34.9, 94 cents; 35-35.9, 97 cents; 36-36.9, $1; 37 degrees and over, $1.02.
Kettleman Hills—25-25.9 degrees, 76 cents; 34-34.9, 78 cents; 35-35.9, 80 cents; 36-36.9, 83 cents; 37-37.9, 84 cents; 38-38.9, 86 cents; 39 degrees and over, 88 cents.
Newhall, McKittrick and Kern River—14 degrees to 19 degrees and over, 52 cents.
Wheeler Ridge—14 to 20.9 degrees, 52 cents; 21-21.9, 55 cents; 22-22.9, 57 cents; 23-23.9, 60 cents; 24-24.9, 63 cents; 25 degrees and over, 66 cents.

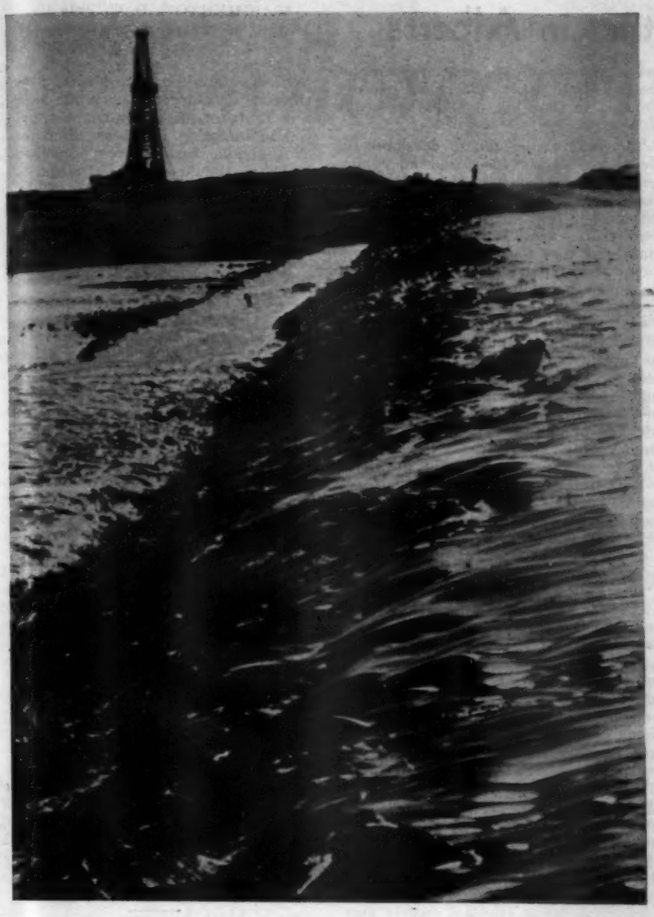
The Union Oil Co. met all Standard Oil Co. of California prices in fields where both companies purchase, and posted as follows in East Coyote: 14 to 15.9 degrees, 55 cents; 16-16.9, 57 cents; 17-17.9, 60 cents; 18-18.9, 62 cents; 19-19.9, 65 cents; 20-20.9, 68 cents; 21-21.9, 71 cents; 22-22.9, 74 cents; 23-23.9, 76 cents; 24 degrees and over, 79 cents. Santa Paula, 14 to 18.9 degrees, 55 cents; 19-19.9, 57 cents; 20-20.9, 60 cents; 21-21.9, 63 cents; 22-22.9, 65 cents; 23-23.9, 67 cents; 24-24.9, 70 cents; 25-25.9, 73 cents; 26-26.9, 75 cents; 27-27.9, 77 cents; 28-28.9, 80 cents; 29-29.9, 83 cents; 30 degrees and over, 85 cents. Orcutt, 16 to 18.9 degrees, 53 cents; 19-19.9, 54 cents; 20-20.9, 57 cents; 21-21.9, 61 cents; 22-22.9, 65 cents; 23-23.9, 69 cents; 24-24.9, 72 cents; 25-25.9, 76 cents; 26 degrees and over, 80 cents. Lost Hills and Belridge schedule same as that of the Standard Oil Co. of California in Lost Hills; Mount Poso, Kern River, McKittrick schedule same as Standard's Newhall, McKittrick and Kern River schedule except that Union Oil Co. posts 47 cents for 11 to 13.9 degrees, inclusive. Union Oil Co.'s schedule also posts 47 cents per barrel for 11 to 13.9 gravity in Coalinga, Midway-Sunset, Elk Hills and Buena Vista Hills.

Texas Co. effective June 26, 1933, met Standard Oil Co. of California prices in Signal Hill, Alamitos Heights, Huntington Beach, Torrance, Richfield, Montebello-North Whittier, Santa Fe Springs, and pays following prices in Shiells Canyon, South Mountain and Santa Paula: 14 to 18.9 degrees, 55 cents; 19-19.9, 57 cents; 20-20.9, 60 cents; 21-21.9, 62 cents; 22-22.9, 65 cents; 23-23.9, 67 cents; 24-24.9, 70 cents; 25-25.9, 72 cents; 26-26.9, 75 cents; 27-27.9, 77 cents; 28-28.9, 80 cents; 29-29.9, 83 cents; 30 gravity and over 85 cents.

Associated Oil Co., effective June 26, 1933, adopted Standard Oil Co. of California's prices with a few reservations in the upper brackets. In Huntington Beach the highest price is 86 cents for 26 degrees and over. In Seal Beach and Alamitos Heights, top price is 83 cents for 26 degrees and over; Coyote Hills, top price is 73 cents for 23 degrees and over. In Richfield, top price is 85 cents for 25 degrees and over; Torrance, top price is 80 cents for 25 degrees and over; Santa Fe Springs, top price is $1.05 for 35 degrees and over; Midway-Sunset, Elk Hills and Buena Vista Hills, top price is 95 cents for 30 degrees and over; the Associated Oil Co. also posts 47 cents per barrel for 11 to 13.9 gravity oil in McKittrick, Kern Front, Kern River, Midway-Sunset, Elk Hills, Buena Vista Hills and Coalinga.

General Petroleum Co., effective June 26, 1933, posted same prices as Standard Oil Co. of California with some reservations in the upper grades in some fields and in lower grades in one field: Midway-Sunset, top price is 95 cents for 30 degrees and over; Alamitos Heights, top price of 83 cents for 26 degrees and over; Santa Fe Springs, bottom price of 70 cents for 24-24.9; Richfield, top price of 85 cents for 25 degrees and over; Brea Canyon, Olinda, top price of 85 cents for 25 degrees and over; Torrance, top price of 80 cents for 25 degrees and over.

A Veritable Flood of Oil in Russia



—International News Photo

Moscow, Russia—This torrent of oil swept a path through the surrounding country like a flooded stream when a new oil well was recently struck in Lockbatan in the suburbs of Baku. The well has been yielding from 105,000 to 140,000 bbls of oil daily. Workmen have been laboring valiantly to prevent as much waste as possible

M. Barinov, chairman of Azneft, contributes the following information about the new Russian gusher, to the Petroleum Times of London:

The gusher which spouted on May 18 from well No. 45 on the Lok-Batan oil field continued to flow on the eleventh day with tremendous force, yielding approximately 15,000 tons of oil a day. In size the gusher exceeds all previous gushers during the last 25 years on Soviet territory. In force it occupies the fourth place among the world's gushers.

The area of Lok-Batan was named after the mud volcano of that name situated in it. The existence of the volcano caused some geologists to oppose organized research in this area, as until now it was thought that districts with mud volcanoes were barren of oil. The courageous research work of Azneft's geologists shattered this belief. Geological research and prospecting carried out on a wide scale on the Apsheron Peninsula resulted in the discovery of immense hitherto unknown oil reserves. At the end of 1931 research work was commenced on Lok-Batan under the guidance of the geologist Bahich-Sultanov. The most recent and up to date geophysical methods of research were employed, particularly a method of upward research suggested by the head of Azneft's geological research department. Combination of the newest methods made it possible considerably to expedite research work, and to ascertain the immense value of the Lok-Batan oil field, as well as to prepare extensive areas for exploratory drilling. The first exploratory well of Lok-Batan produced a gusher which yielded 5,000 tons of light oil a day, and was followed by a number of other gushers. In March of this year well No. 18 spouted a gusher which yielded 10,000 tons of oil during a period of 18 hours.

To Drill 800 Wells

The gusher at well No. 45 puts Lok-Batan among the world's greatest oil fields, on a level with Bibi Eibat and Surakhany (now renamed Stalin oil fields and Ordjonikidze oil fields respectively). Research work on the area is being continued; nine oil layers are already opened up, and an area of 800 hectares is ready for exploratory drilling. It is proposed to drill 800 wells.

A peculiarity of the Lok-Batan oil field is the comparatively shallow depth at which the oil layer is found; at a depth of only 300 to 400 meters the oil flows in a powerful stream. Besides heavy oil deposits there are also considerable deposits of light oil, which are rich in petrol; light fractions amount to 40 per cent.

In the autumn of 1932 the Transcaucasian Geological Conference, under the chairmanship of Professor Gubkin, definitely established the great value of Lok-Batan. Since then research work has brought to light a number of additional proofs, confirming the colossal richness of the Lok-Batan reserves. The saturation of the strata and concentration of the oil place Lok-Batan among the first of the world's greatest oil fields.

The experience of Lok-Batan testifies to the unlimited richness of the Apsheron Peninsula; it is hoped to achieve, with the assistance of the newest technical equipment, a wide development in record time. The work carried out on Lok-Batan during 1½ years would have required with old research methods not less than five to six years. Far from all layers are mapped out at present, and the depth limit has not yet been reached. Further drilling should encounter several new and powerful oil deposits and research work is being continued.

No effort was spared to carry out the work in record time, thus making it possible to save the gushing oil and to insure its being pumped into reservoirs.

During the period of its flow the gusher stopped three times: The first time 45 minutes, second time 4 hours and the third time 7 hours. These stoppages were caused by falls of the upper stratum. The force of the gusher, however, conquered these obstacles, yielding on some days up to 830 tons of oil an hour. During the last three days the gusher has been flowing without interruption. By the evening of May 27 the yield somewhat decreased. Another stoppage was expected, but the gusher suddenly gained in strength during the night of May 28, and is at present yielding from 15,000 to 17,000 tons a day. The well is being completely cased in; and will have a wooden cover with cast iron bolts fixed on it. This measure will prevent the oil being atomised.

Third Pipe Line Used

During eight days 46,000 tons of oil passed through the two pipe lines. On May 27 a third pipe line was put in commission, from Lok-Batan to the Stalin oil field (Bibi Eibat), through which an additional quantity of 9,700 tons was pumped. The work of welding the fourth pipe line is now completed; throughput capacity of the pipe line amounts to 6,000 tons a day. This pipe line will serve as a connection between Lok-Batan and the main pipe line Baku-Batoum. During the last few days the throughput capacity has been increased to 15,000 tons a day. This represents normal and adequate means for the commercial pumping of the oil yielded by the gusher. With the assistance of newly installed pumps the oil has been repumped from small temporary reservoirs into permanent reservoirs, the walls of which are continuously being piled up higher and higher.

It is reported that the gusher was completely mastered on May 29. The oil is now flowing direct into reservoirs. The fourth centrifugal pump, installed on the pipe line Baku-Batoum, has started operations, and Lok-Batan oil is now being led direct to Batoum.

The oil of well No. 45, which was directed to the Stalin oil field (Bibi Eibat) completely overflowed all available reservoirs. It was, therefore, decided to intercept the oil and to direct it by marine pipe lines straight into ships' tanks, shipping it to the Baku refineries, and via Mahach Kala to the Grozny refineries.

The Caspian Shipping Trust undertook to ship not less than 3,000 tons a day.

Texas Petroleum Council Is Organized at Houston

(Continued from Page 12)

oil ratio in the operation of any oil well or wells, the drowning with water of any stratum or part thereof capable of producing oil or gas in paying quantities, underground waste of oil or gas, the elimination of unnecessary fire hazards, physical waste resulting from the drilling, equipping, locating, spacing or operating of wells in such manner as to reduce the total ultimate recovery of oil or gas from any pool, waste resulting from excessive or improper dissipation of reservoir energy in any well or pool, surface waste of oil and gas and any other aspect of physical waste; such data so collected to be supplied to and made available for the Railroad Commission of Texas for such aid as it may render to the Railroad Commission of Texas in its formulation of rules, regulations and orders, and to be likewise made available to the attorney general of Texas, in aid of his activities in enforcing the rules, regulations and orders of the Railroad Commission of Texas.

(d) To supply such data and information so gathered and collected to the Bureau of Mines and to such administrative agencies as the President of the United States may delegate any of his functions and powers to under the provisions of the National Industrial Recovery Act, in so far as same shall relate to the oil industry.

In explanation of the object of such an organization Mr. Hill prepared the following resume of his opinions as set down in the longer message he addressed to oil producers of Texas.

In addition the organization will seek ways and means for eliminating the gasoline tax evasion.

CONSULT REGENTS

AUSTIN, Tex., July 11.—A committee from the newly created Texas Petroleum Council, organized in Houston, July 10, was in Austin Tuesday to confer with University of Texas regents and ask that Dr. R. W. Stayton, professor of law, be permitted to accept the presidency of the council. Members of the committee were W. B. Hamilton, George Heyer, Mr. Heiser of Dallas, George Hill and J. R. Parten.

William E. Wrather of Dallas has been offered the post of executive vice president, with headquarters at Austin.

Principal Procedures in Making Doctor Test

(Continued from Page 16)

threshold acts differently as compared with n-butyl and n-heptyl mercaptans. When the sulphur content as methyl mercaptan is approximately 0.0030 per cent the usual brown flecked sulphur particles can be seen. When the detection threshold is approached, the brown lead sulphide does not appear at the interface after agitation but the mercaptans are indicated by a gray opalescense in the doctor solution layer on standing. On long standing this color will disappear with the collection in the bottom of the tube of the black lead sulphide. This is not to be confused with opalescense in the hydrocarbon layer which is formed when elementary sulphur is present in the gasoline before testing.

When any mercaptan solution is being tested, the sulphur content being near the limit of the doctor sensitivity, because of the vigorous shaking necessary for the test, the cork is sometimes affected by the doctor solution imparting a brown color to the solution and obscuring or masking the visual perception of the small amount of lead sulphide. This was proved by the use of glass-stoppered bottles for the shaking and then transferring the solutions to a test tube for comparison with another test made in identically the same manner except that a cork stopper had been used in the tube. This precaution need only be taken when the mercaptan content is near the threshold of the doctor test.

Conclusions

The essential fact demonstrated by these tests is that each of these two methods of conducting the doctor test is extremely sensitive. The U. S. Bureau of Mines method will detect methyl, butyl and heptyl mercaptans in sulphur concentrations amounting to 0.002, 0.0002 and 0.00009 per cent, respectively. The N.G.A.A. method will detect butyl mercaptan in sulphur concentrations amounting to 0.0003 per cent. Thus when the N.G.A.A. method shows a gasoline to be sweet and the U. S. Bureau of Mines method shows it to be sour it is certain that the mercaptan sulphur content can only be described as the slightest trace.

Undoubtedly those exercising the commercial practice of insisting on considerable price concessions under such circumstances fail to take into account the very small amounts of mercaptan sulphur that can be detected by the extremely sensitive doctor test, by whatever method it is determined. The actual facts do not justify price revisions.

FRENCH OIL MONOPOLY

The French government has created a commission of 33 members to study the practicability of a government monopoly on importation and refining of oil to report before parliament next October.

Late Fields

OKLAHOMA

Citation for contempt of an injunction of the Oklahoma Corporation Commission was filed Monday, July 10, and set down for hearing July 28, against the Refiners Production Co. This case and another one alleging overproduction of one of the company's wells in the Oklahoma City Pool, is the first prosecution under the new proration act which became effective April 10.

Earl Shamblin and H. B. Harden's No. 1 Black, NE cor. Section 13-9-10, Hughes County, south of the Wetumka Field, is a new wildcat location. It will be drilled to test the Wilcox sand which is expected around 3,900 feet. It is being drilled on a 700-acre block.

In the south extension area of the St. Louis Field, in Pottawatomie County, the Amerada Petroleum Corp. and others' No. 1 Harrison, NW cor. SW Section 35-7-4, made 6,474 bbls. of oil swabbing and flowing on its 48-hour potential test from the Viola lime. It made 3,434 bbls. the first 24 hours and 3,040 bbls. the second day and 3,246 bbls. the third day.

Deep Rock Oil Corp.'s No. 1 Richardson, SE cor. NE NE Section 32-7-4, was bottomed at 4,174 feet in Simpson formation with 2,000 feet of oil in the hole. It will be treated with acid.

In Logan County, Gypsy Oil Co. and Carter Oil Co.'s No. 1 Miller, C NE SE Section 28-17-4w, near Crescent, was bailing the hole after landing the 7-inch casing at 6,070 feet. A saturated core was found from 6,131-41 feet, in Wilcox sand.

Lucien Consolidated Community's No. 1 Schonwald, C NE NW Section 20-20-2w, in the Wentz Pool, Noble County, found a showing of gas at 5,070 feet. It is believed to be the top of the Wilcox sand. This test is also believed to be running high on structure. It is located in the southeast part of the community block.

Magnolia Petroleum Co.'s No. 1 Waggoner, SW cor. SE Section 2-14-3, near Chandler, in Lincoln County, cleaned up its fishing job at a total depth of 4,841 feet and was cleaning out.

Shell Petroleum Corp. and others' No. 1 Faulkner, C SE NW Section 11-15-4w, a wildcat test in Logan County, cored the Wilcox sand from 6,672-79 feet where a slight showing of oil was reported. The top of the Wilcox sand was found at 6,665 feet.

KANSAS

The Gypsy Oil Co. has treated its producing wells in the Stoltenberg Pool, in Ellsworth County, with acid. The No. 2 Stoltenberg increased from 262 to 717 bbls.; No. 3 Stoltenberg increased from 828 to 1,579 bbls. and No. 1 Kozisek increased from 696 to 756 bbls. These wells are producing from Siliceous lime.

The Voshell Pool in McPherson County hade a daily average production of 6,758 bbls. in June. The Ritz-Canton Pool, in McPherson County, produced 20,009 bbls. per day; Nikkel Pool, in McPherson County, 8,917 bbls. per day, and the Hollow Pool, in Harvey County, 10,717 bbls. per day.

The Nikkel and Hollow Pools are the most active in the State at the present time with 22 operations under way.

The Indian Territory Illuminating Oil Co. has farmed out to the Dickey Oil Co. the SE Section 2-20-3w, in the Johnson Pool, in McPherson County. A location has been staked for a test in the NE cor. SE Section 2-20-3w.

The wildcat test of Frank Hollow and Carter Oil Co., No. 1 Heiderbricht, in Section 36-22-4w, Reno County, southwest of production in the Hollow Pool, is being completed as a gas well from chat at 3,370 feet.

Vickers Petroleum Co.'s No. 1 Specht, in Section 20-20-10w, Rice County, found oil in the Siliceous lime at 3,335-54 feet. The oil rose 1,700 feet in the hole in four hours. It will be given a treatment with acid before being completed.

The Magnolia Petroleum Co.'s No. 2 is a twin well in the NE cor. NW NE Section 30-22-3w. It is in the southwest part of the Hollow Pool, and is a twin to the only Kansas City lime well in the Hollow Field. This test will be drilled to the chat.

The Derby Oil Co.'s No. 1 Stanley, in Section 35-23-4w, Reno County, in the Blake district, is flowing 120 bbls. a day from chat. It is also making 2,000,000 feet of gas a day from the same level. About 10,000,000 feet of gas was cased off from a shallow formation above the chat.

GULF COAST

HOUSTON, Tex., July 11.—Magnolia Petroleum Co.'s No. 1 Rudel, Joseph House Survey, 2 miles north of the discovery well at Tomball, completed last week as a dry gas well in sand at 5,508-28 feet, blew out Monday while operators were preparing to deepen it. The well cut out connections and now is running wild. Completion of this well as a gasser was looked upon as disappointing but considering its highness this was not to be unexpected. It had oil showings in sand at 5,446-59 feet but after drilling plug deepened to its present depth where 86 feet of 5-inch screen was set. It came in estimated at 20,000,000 feet of gas daily through a three-eighths inch choke with pressure of 1,840 pounds on tubing and 800 pounds on casing. Out of control it is spraying some light gravity distillate.

Humble Oil & Refining Co.'s No. 1 Fritz Kobs, west offset to the discovery well, J. M. Hooper Survey, came in Sunday night as the second oil producer for the field. It is in sand at 5,554-75 feet and Monday was flowing at the rate of 37 bbls. per hour. Same company's No. 1 Martens, a mile west extension test, in the lower W. Hurd Survey, was setting screen Monday to test sand at 5,517-38 feet.

British Geologist Reports on Survey of Old Oil City District in Alberta

CHATHAM, Ontario, July 8.—E. H. Cunningham Craig, British geologist, who recently visited the old Oil City Field in southwestern Alberta, has given his views on the prospects of that field, which is now being tested by Oil City Royalties, Ltd., in Section 30-1-30w4. In part, Mr. Cunningham Craig's statement is as follows:

"As regards geology, first impressions formed four years ago proved to be on many important points definitely and completely wrong. There is no outcrop of the Kootenay formation and none even of the Madison limestone. A vast thickness of pre-Cambrian strata in apparently regular succession, divided into well-marked groups, is seen dipping southwest up the valley. At intervals throughout a distance of about a mile, seepages of oil of excellent quality can be seen, or disclosed by a little digging in the sides of the creek. It is quite obvious that these seepages of oil have nothing to do with the pre-Cambrian strata from which they emerge, nor are they in any way connected with the stratigraphy of that formation. The nature of the oil is also significant; it is but slightly filtered, retaining its green fluorescence and to a large extent its content of solid paraffin. It reaches the surface along no fault plane or zone of crushing, but along joint planes and bedding planes in these old and hard strata.

"Such occurrences are no doubt puzzling at first sight, but a simple explanation becomes apparent through a study of the general structure. A vast thrust plane is known to bound the pre-Cambrian massif on the northeast; there is also a minor but well-defined thrust, possibly of earlier date, which crops out in Cameron Creek and can be followed all round Mount Crandell. This thrust crops out in the creek below Oil City and the oil seepages are on the upthrow side of it.

"It seems we are dealing with a great sigmoidal fold which may have its root in Alberta but more probably in British Columbia. This great recumbent fold involves pre-Cambrian, Palaeozoic and Mesozoic strata, but it seems probable that little if any of the Carboniferous and Devonian limestone formation is present. These formations may possibly have thinned out against an island of pre-Cambrian rocks. There is evidence pointing to this, but it is by no means certain.

"A great thrust plane, developed in the middle limb of the sigmoidal recumbent fold, driving the Mesozoic strata beneath the pre-Cambrian for many miles. It is from these overthrust Mesozoic strata, more especially the Kootenay beds, that the oil has migrated upwards along joint and bedding planes to the surface, making the numerous seepages which are seen today.

"All the pre-Cambrian strata exposed in and about Cameron Creek are part of the overturned limb of the recumbent fold; the upper part of the fold has been removed by denudation. It is useless, therefore, to make any deduction from the thickness of the pre-Cambrian groups exposed, or from their dips, as to the depth to be drilled to strike oil in the overriding petroliferous Cretaceous strata beneath. The only evidence that matters is that concerning the angles of dip of the major and minor thrust planes; there is a distinct indication that the plane of the major thrust bends somewhat.

"The practical points to be noted are: (1) That the petroliferous lower Cretaceous strata are not very far beneath the surface, and (2) that the oil-bearing rocks are effectively sealed, the oil cannot escape. To drill to tap this oil is naturally to some extent drilling in the dark, but that oil-bearing strata, either porous dolomitized limestone or Kootenay sands, can be tapped is proved by the development work that has already been done. What is more, there is a probability of very far and long-continued production from these strata beneath the great thrust plane. Only drilling can prove such a field, and the test now being drilled, if continued to sufficient depth, may open up quite a large area from which crude oil of excellent quality may be obtained for many years."

Oil City Royalties' No. 1, Section 30-1-30w4, is reported drilling below 600 feet in extremely hard formation. It is close to the old Lineham discovery well, which, drilled about 1903, claimed a flush production of 300 bbls. a day from a depth of 1,020 feet."

Texas Commission Calls Statewide Hearing July 27

AUSTIN, Tex., July 10.—The Texas Railroad Commission Monday called a statewide oil proration hearing for Austin July 27. It also called a hearing for Austin July 31 on rate and regulations governing the storage of crude petroleum. The commission announced it will restrict upground storage to current refinery and export requirements.

MAGNETIC STORM

Tucson, Ariz., observatory of the U. S. Coast and Geodetic Survey report severe magnetic storm started at 2 p.m. (C.S.T.) on July 8 and ended at 8 a.m. (C.S.T.) on the 9th. Their telegram follows:

"Storm began eight. Twenty. Severe. Ended ninth fourteen."

JOHN D. ROCKEFELLER 94

TARRYTOWN, N. Y., July 8.—John D. Rockefeller celebrated his ninety-fourth birthday today at his Pocantico Hills estate with his son, John D. Rockefeller, Jr., his grand-children and his two great-grand-children.

Hearing on Oil Code to Be Held in Two Weeks

WASHINGTON, D. C., July 10.—The hearing on the proposed oil code, which is expected to start in Washington within the next two weeks, is likely to be enlivened by divergent opinions as to what the code should contain. While a tentative draft of the code adopted at the Chicago meeting has been discussed at Washington, nearly every organization, including the American Petroleum Institute, has accepted the draft with the reservation of suggesting changes in the course of the hearing at Washington. Some organizations which have taken no hand in drafting the tentative code also will present their ideas.

"The oil industry has formulated a code," Gen. H. S. Johnson, recovery act administrator, said. "I talked to them about it, but they have not worked out wages and hours of labor, and I cannot accept it until that is in. They may have another code. I heard that the second code was ready."

Oil, he said, is not the same problem as coal, but they may have to recognize regional differences in oil as in coal. They would attempt to harmonize differences that may arise between major companies and independents not in that group.

Some adjustment of authority between oil control officials of various states and the industrial recovery administration may be necessitated by the special oil provisions of the cabinet board, appointed to advise with General Johnson's organization.

The oil section in the act provides that the President may stop interstate commerce in oil produced in excess of state allowables, thus strengthening state control. If an oil code is approved providing for production control, the functions of the states and of the industrial recovery administration would have to be adjusted to prevent overlapping of authority, it is felt, just as was the work of the administration of the industry and farm recovery programs.

TIDE WATER CHANGES

BRADFORD, Pa., July 8.—The appointment of George J. Hanks, president and general manager of the Tide Water Pipe Co., Ltd., and the Bradford Transit Co., to manager of transportation for the Tide Water Oil Co., has been announced by E. L. Shea, president of the Tide Water Oil Co.

Noel Robinson, of New York, vice president of the Tide Water Oil Co. and recently elected director of the Pennsylvania Grade Crude Oil Association, has been appointed assistant to the president of the Tide Water Associated Oil Co. and chairman of the manufacturing and marketing committee, supervising the purchase of the crude oil supply for all Tide Water refineries. In addition to his other duties, he will continue as vice president of the Tide Water Oil Co.

CAR REGISTRATION HIGHER

NEW YORK, July 10.—As anticipated by many marketers, there has been a sharp upturn in automobile registrations here since July 1, at which time the half-year rate for license plates became effective.

On July 1, a half holiday, more than 8,200 automobiles were registered at the New York City offices alone, with correspondingly heavy registrations in other parts of the State. Since the start of the month, registrations have continued heavy.

ORDERS FOR TANK PLATES

There are indications of a more active demand from oil companies in the steel markets, the Wall Street Journal says. This is true particularly of plates for tank work. The Pan American Petroleum & Transport Co. has placed a contract for 7,000 tons of steel for tanks at Texas City, Tex., with the Chicago Bridge & Iron Works. The latter also took 800 tons for tanks for the Sun Oil Co. at Cleveland.

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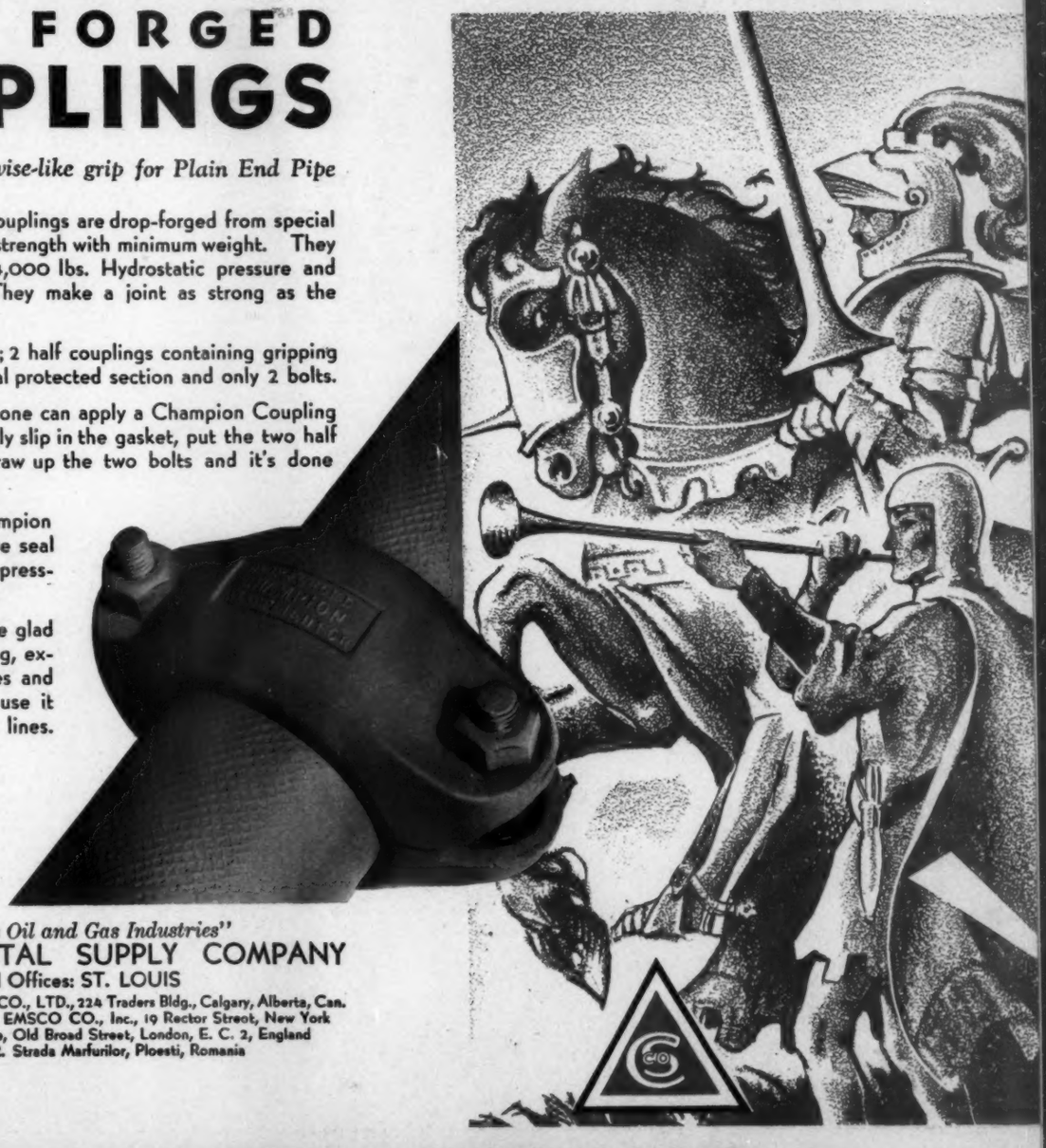

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NATURAL GASOLINE MANUFACTURE

Gasoline Association to Send Experts for Hearing

The Natural Gasoline Association of America has been asked to send experts to Washington, D. C., July 17, to aid in giving testimony before T. A. Walters, First Assistant Secretary of the Interior, in the plea of intervention filed by the Mid-Continent Oil and Gas Association with respect to a decision rendered against the Deep Rock Oil Corp. when it did not pay the higher royalty occasioned by the establishing of a 10 pressure base for the measurement of gas produced on Indian lands.

Natural gasoline manufacturers are interested in the case in that other suggested changes have been made by the U. S. Geological Survey, under whose surveillance the properties of Indians is operated, which would add greatly to the royalty payments producers will pay and will effect standard practices in effect for years with respect to the pressure base on residue gas, the 50 per cent allowed the manufacturer on the residue gas, the use of royalty free gas for the operation of the plant, etc. W. F. Semple of the Deep Rock Oil Corp. will head the group to be present at the hearing. W. O. Beall, attorney for the Sinclair Refining Co., will represent the Mid-Continent Oil and Gas Association, L. G. Rheinberger the Natural Gasoline Association of America and expert witnesses include James W. Cowles of the Shell Oil Corp., D. C. Williams of the Continental Oil Co., Theodore Goebel of the Skelly Oil Co. and Robert Hendee has been chosen to represent the gas interests.

The plan of the U.S.G.S. to place the payment of royalties on gas produced on Indian land from a 2-ounce pressure base to a 10-ounce base raises the classification of much of the gas processed and will effect an increase in royalty payments of from 25 to 33 per cent. It has also been suggested that the pressure base for the residue gas be the same as the purchasing base, namely 10 ounces. This will cause an added 9 per cent increase in royalty payments.

Shamrock Oil & Gas Co. Plans Panhandle Plant

FORT WORTH, Tex., July 10.—Shamrock Oil & Gas Co. has announced that it will spend in the neighborhood of $250,000 in construction work on its Panhandle properties, the work to start immediately. A gasoline plant is to be erected in Moore County, and a 1,200-bbl. refinery is to be erected near LeFors on the Fort Worth & Denver Railroad. The company now operates a gasoline plant in Gray County.

The erection of the second gasoline plant is said to come as a result of purchasers not electing to take gas equitably from all producers in the district. Several other companies have also obtained permits from the Railroad Commission to erect gasoline plants on their properties.

The new gasoline plant of the Shamrock Oil & Gas Co. will have a capacity of 60,000 feet, and will be located in Section 36, Block 44, H.&T.C. Survey of the above mentioned county. The plant in Section 50, Block 25, H.&G.N. Survey, may also be increased from 10,000,000-foot capacity to 40,000,000 feet daily.

OUTLET FOR RESIDUE GAS

CHATHAM, Ontario, July 8.—Independent operators in the Turner Valley Field have contracted between 75,000,000 and 80,000,000 feet daily production of "tail" gas for the new gasoline absorption plant being organized by Minor Meriwether of Los Angeles, Calif.

East Texas Improves Its Relative Position as a Producer of Natural Gasoline

Natural gasoline production in the United States reversed its downward trend for the first four months of the year and turned upward in May as the result of liberalizing the allowable production of crude oil in the Oklahoma City and East Texas fields, according to the monthly report of the Bureau of Mines.

Although the East Texas Field has not been nearly as important as a source of natural gasoline as it has been for crude oil, the change from producing that oil under field pressure to the use of pumps is making that field of growing importance.

Stocks of natural gasoline at plants showed a marked increase for the month when, at the close of May, the total stood at 38,884,000 gallons. This is roughly 16,000,000 more than at the beginning of the year. However, May is usually a peak month for the year and when comparing the stocks at the close of May this year with those of a year ago, a more optimistic conclusion may be drawn from a market standpoint. A year ago total stocks were 44,279,000 gallons or about 5,500,000 gallons more than this year.

Per Cent of Natural

The percentage of natural gasoline produced compared to the total volume of all motor fuel produced, decreased from 8.2 per cent in April of this year to 7.8 per cent in May. This is consistent with the lesser season demand for the more volatile gasolines. This lesser use of natural gasoline is reflected in the drop in the volume blended at refineries from 1,738,000 bbls. in April to 1,650,000 bbls. in May.

A factor in the matter of the volume of natural gasoline used by refiners is the degree of intensity of cracking operations. In May refiners produced practically as much cracked gasoline as straightrun but this was not true in April. In May the cracked gasoline represented 46.3 per cent of the total motor fuel produced and in April was only 43.6 per cent. In those same months the percentage of straightrun dropped from 48.6 to 46.4 in May. The detailed tabulation of the total production and distribution of natural gasoline for the two months in question is shown here.

In studying the trend of natural gasoline production by fields, the only unusual change in May was the greatly increased production in the East Texas Field. Here the output jumped from 900,000 gallons in April to 1,900,000 gallons in May. This exceeds the total production of the North Texas area.

Effect of Pumping

It is impossible to accurately state the effect pumping and the liberalizing of production allowables in East Texas have had on the output of natural gasoline as separate items. The field is so large and many of the 10,000 producing wells have been equipped with pumps months in advance of its actual use. Pumps are now being installed on wells throughout the field as fast as the equipment can be supplied. Also, there are many wells which are not connected to gasoline plant gathering systems so a report on the pumping activities of the field means little unless considerable detail is given. Conditions are changing so rapidly, this has proved impossible even among companies that have a large number of scouts in the field.

However, one thing is assured, namely, that the field is moving to the general use of pumps and other means of producing artificially. This will cause further increases in the production of natural gasoline day by day and by fall a substantially greater volume of natural gasoline is expected, especially if the market price of natural remains at or above its present level.

Too much should not be expected from the field, even at its peak, however, for the quantity of available gas is well known to be relatively low. The East Texas Field will never be an important source in the sense that the Panhandle of Texas or Oklahoma City, Seminole Fields of Oklahoma, have been in the Mid-Continent.

Oklahoma Fields

In Oklahoma an increase is shown in the output of the Oklahoma City Field for May. In April this area produced 5,200,000 gallons and in May 6,400,000 gallons. As was stated previously, the greater allowable production of crude during May accounts for the increase.

No important changes are shown in the production of the various fields in California for the month. The Kettleman Hills area produced slightly less in May than April while the Long Beach and Santa Fe Springs Fields showed increases. The small fields in California also reported increases.

To permit a comparison of natural gasoline stocks at plants at the close of May with those at the close of other months within the past 17 months, the following tabulation has been prepared:

STOCKS OF NATURAL GASOLINE AT GASOLINE PLANTS AT CLOSE OF PERIOD

1932—	Gallons
January	34,000,000
February	36,800,000
March	39,778,000
April	44,584,000
May	44,279,000
June	34,106,000
July	31,809,000
August	25,888,000
September	24,628,000
October	24,200,000
November	20,075,000
December	18,840,000
1933—	
January	22,625,000
February	27,343,000
March	31,594,000
April	34,167,000
May	38,884,000

PRODUCTION AND DISTRIBUTION OF NATURAL GASOLINE

(Thousands of barrels of 42 U. S. gallons)

	May, 1933 Total	May, 1933 Dly. av.	April, 1933 Total	April, 1933 Dly. av.	Jan.-May, 1933	Jan.-May, 1932
Production	2,776	90	2,674	89	13,640	15,869
Decrease in all stocks	....	....	....	....	.....	.....
Total	2,776	90	2,674	89	13,640	15,869
Blended at refineries	1,650	53	1,738	58	8,928	9,760
Blended at plants east of Calif.	10	1	9	....	42	15
Run through pipe lines in Calif.	91	3	103	4	527	566
Jobbers, export, etc.	362	12	507	17	2,116	2,209
Increase in all stocks	378	12	40	1	762	1,447
Losses	285	9	272	9	1,266	1,872
Total	2,776	90	2,674	89	13,640	15,869

PRODUCTION OF MOTOR FUEL

(Thousands of barrels of 42 U. S. gallons)

	May, 1933 Total	May, 1933 Dly. av.	April, 1933 Total	April, 1933 Dly. av.	Jan.-May, 1933	Jan.-May, 1932
Refinery gasoline:						
Straightrun	16,470	531	15,820	528	77,200	84,412
Cracked	16,400	529	14,258	475	69,641	79,407
Natural gasoline:						
Production	2,776	90	2,674	89	13,640	15,869
Deduct losses	285	9	272	9	1,266	1,872
Benzol	105	3	89	3	465	544
Total motor fuel	35,466	1,144	32,569	1,086	159,680	169,360

PRODUCTION AND STOCKS BY FIELDS

(Thousands of gallons)

	Natural gasoline: Production May, 1933	Production Apr., 1933	Production Jan.-May, 1933	Production Jan.-May, 1932	Stocks end of month May, 1933	Stocks end of month Apr., 1933	Blended motor fuel May, 1933: Natural gasoline used	Naphtha or other oils used	Stocks end of month
Appalachian	4,200	5,300	28,200	33,400	7,723	7,719	50	34	80
Ill., Ky., Ind.	600	700	3,600	3,300	775	803	...	...	...
Oklahoma	28,800	27,100	140,000	169,500	14,987	10,780	19	12	47
Oklahoma City	6,400	5,200	31,700	35,400	3,454	1,896	...	...	...
Osage County	3,600	3,400	16,900	20,600	1,877	1,087	5	4	9
Seminole	7,700	7,800	38,500	52,000	4,466	3,291	1	...	...
Rest of State	11,200	10,700	52,900	61,600	5,190	4,506	13	8	38
Kansas	1,700	2,100	10,900	11,700	1,111	836	42	9	31
Texas	30,300	28,500	142,400	151,100	9,389	8,774	149	187	102
East Texas	1,900	900	6,700	(*)	204	182	140	185	67
North Texas	1,700	1,600	8,700	11,100	719	615	...	...	...
Panhandle	14,600	14,200	68,800	74,300	3,514	3,130	1	2	1
West Central	7,300	6,800	34,100	38,200	3,691	3,606	8	...	34
Rest of State	4,800	5,000	24,100	27,500	1,261	1,241	...	...	...
Louisiana	3,200	3,200	16,000	21,800	1,151	1,062	131	...	44
Arkansas	1,300	1,400	6,500	8,700	120	164	40	...	3
Rocky Mountain	4,600	4,400	23,100	24,900	1,091	1,122	...	...	...
California	41,300	39,600	202,500	242,100	2,537	2,897	...	...	...
Huntington Beach	1,700	1,600	7,300	7,500	.....	.....	...	...	...
Kettleman Hills	10,800	10,100	55,900	59,900	.....	.....	...	...	...
Long Beach	7,600	7,300	35,300	47,300	.....	.....	...	...	...
Santa Fe Springs	7,600	6,900	34,700	42,900	.....	.....	...	...	...
Ventura Avenue	3,000	3,100	16,600	18,300	.....	.....	...	...	...
Rest of State	11,400	10,600	52,700	65,300	.....	.....	...	...	...
Total	116,600	112,300	572,900	666,500	38,884	34,167	431	242	286
Daily average	3,760	3,740	3,790	4,380	.....	.....	14	8	...
Total (thousands of barrels)	2,776	2,674	13,640	15,869	926	814	10	6	7
Daily average	90	89	90	104	.....	.....	...	...	...

*Included under "Rest of State."

Bunker "C" and Diesel Oil Advances Feature Oil Market Developments on East Coast

By A. E. MOCKLER
New York Bureau, The Oil and Gas Journal

NEW YORK, July 10.—Recent strength in the heavy oil market in this area culminated last week in an advance of 10 cents per barrel in bunker "C" and Diesel oil quotations at principal East Coast ports and at some points on the Gulf. The advance, which became effective on July 7, was initiated by the Standard Oil Co. of New Jersey, and marks the first increase in the price of these oils in this territory since the general market started on the upward move several weeks ago. The increase had been anticipated by domestic consumers, who had filled their storage at the old price levels, but marine consumers, who account for the bulk of the volume in these oils were not in position to stock ahead, due to their lack of adequate storage.

While the upward move in gasoline prices appears to have run its course for the present, the market continues extremely strong, and a resumption of the trend toward higher price levels is generally anticipated, particularly in view of the advance in posted prices for crude during the week. Refiners are now consolidating their markets after the steady price climb of the past few weeks, but sentiment in refining and marketing circles indicates the market will probably go several cents per gallon higher in the near future, with 20-cent retail gasoline talked of for New York. The present posted price is 16.2 cents.

South American Oil

Increases in crude oil and gasoline prices at the U. S. Gulf have brought about improved market conditions for producers and refiners of petroleum in Mexico, Trinidad, Venezuela, Colombia, Peru, and other South American countries. Many of these interests, particularly crude producers, sell a large part of their output on a flat differential against the prevailing U. S. Gulf quotations, and recent price advances at the Gulf have substantially increased the netback of sellers operating on that basis.

The Treasury Department ruling permitting the entry of foreign crude and refined oil in bond has likewise extended the potential outlet for these producers, particularly in the case of Mexican and Venezuelan fuel oils, which will now be brought into this country to be sold as bunkers for foreign flag ships.

Third Grade Gasoline

While the recent upsurge in gasoline prices has temporarily relegated third grades to the background, renewed consideration is now being given the third grade problem. Recent advances in specifications for first grade gasolines have put many refiners, unequipped for the production of high octane motor fuel, at a disadvantage in their marketing operations, compelling them to sell the bulk of their output at third grade prices.

Refinery Gasoline

While there has been some levelling off in refinery gasoline prices during the week, as refiners who had lagged behind in the previous week's increases met the higher levels of their competitors, no further general increases in quotations developed.

Posted prices named by leading sellers at principal East Coast ports are as follows: U. S. Motor, below 65 octane, New York, 5.75 to 5.90 cents; Philadelphia, 6.05 cents; Boston, 5.95 cents; Baltimore, 5.50 to 6 cents; Charleston, S. C., 5.50 to 5.75 cents; U. S. Motor, 65 octane and above, New York, 6 to 6.25 cents; Philadelphia, 6.30 cents; Boston, 6.20 cents; Baltimore, 6 to 6.25 cents, and Charleston, 5.75 to 6 cents.

Marketers were taking tank car shipments in good volume during the week and the favorable weather conditions, as well as improved employment and general economic conditions, made for heavy consumption. Distributors were keeping their storage full, in anticipation of further price advances, and the tone of the jobbing market was distinctly bullish.

A considerable increase in shipments of gasoline into the East Coast area from California and the Gulf Coast is reported, with integrated companies drawing on their refining subsidiaries in these areas for additional stocks. With the market on the way to a more favorable level, every effort will be made to continue to hold down surplus stocks of gasoline at refineries, it is indicated.

Some increase in refinery runs is anticipated as a result of the recent decision of the customs authorities to permit the importation of foreign oil for refining here, with the resultant refined products, to be exported, under the provisions of the drawback regulation. This will permit refineries in the East Coast territory to increase their operations, and still not add to the quantities of refined products to be absorbed in domestic markets.

Tank Wagon Gasoline

Steady markets for tank wagon and service station gasolines ruled throughout the week, and marketers reported an exceptionally heavy gallonage. Automobile registrations in this area have shown a decided increase in midyear, and this will make for heavier consumption.

Marketers in the East, particularly in New York and New England territory, are all set for a "painless" increase in their quotations through the medium of the 2-cent cash discount which was recently put into effect at their service stations. Reduction of this discount to 1 cent or the entire elimination of the cash discount plan will give them an opportunity to advance their quotations corresponding amounts without the usual antagonism such sharp advances create in the minds of motorists.

Contrary to expectations in some quarters, the recent upward move in service station gasoline quotations, which has averaged more than 25 per cent, has not visibly affected gasoline consumption. With talk of a 20-cent market for gasoline at filling stations in the near future, however, the outlook is less certain.

Kerosene

Firmness marked the refinery kerosene market, and some talk of an early marking-up of the posted basis was heard. Refiners continued to offer 41-43 water white in tank car lots at 5 to 5¼ cents, f.o.b. refineries or terminals, with a moderately active demand reported.

Tank wagon kerosene markets were unchanged during the period, with marketers reporting a good volume. Distributors operating in the rural districts have established a good gallonage of kerosene and kerosene distillate with users of distillate burners, and this business is usually handled in "drops" of 50 gallons each, the oil being sold in steel barrels for handy storage. Full posted tank wagon prices are obtained on considerable of this volume.

Bunker "C" Oil

Effective July 7, posted prices for bunker "C" oil were advanced 10 cents per barrel at Boston, New York, Baltimore, Norfolk and Charleston, bringing the market up to 85 cents a barrel, refinery terminal, at these points, with the exception of Norfolk, where the new posted price is 80 cents. The concession of 5 cents extended to contract buyers operating ocean-going steamships continues in effect at New York harbor only, making the net price here 80 cents. For barge delivery, an additional 5 cents is quoted at all ports.

On the same date, posted prices at Baton and New Orleans were also increased by 10 cents, making the quotation 70 cents at these points. Corresponding price advances are looked for at the other Gulf and Atlantic Coast bunkering ports, and it is expected the increase will spread to Canadian and Caribbean ports.

Diesel Oil

The bunker oil price change was accompanied by a similar advance in Diesel quotations, the market now being held at $1.75 per barrel here and at other North Atlantic ports, f.o.b. refinery or terminals, with a charge of 6½ cents for barging alongside within harbor limits.

The current advance in Diesel oil quotations, it is believed, reflects only partially the higher production costs incidental to recent increases in crude oil quotations, and a further increase in Diesel oil here would not come as a surprise. The advances in bunker "C" and Diesel oil quotations come at a time when the shipping industry is beginning to experience marked recovery, and for this reason it is not expected much resistance will develop.

Gas Oil

Gas oil markets are firming up in sym-

(Continued on Page 46)

Exports and Imports of Refined Products; Receipts of California Oil in the East

NEW YORK, July 10.—Unsettled prices made for continued quiet in the Gulf export market, and cargo trading in the open market was lacking. Gasoline was nominally quoted at a minimum of 4½ cents for U. S. Motor, 4¾ cents for 60-62 400 endpoint and 61-63 390 endpoint, and 4⅞ to 5 cents for 64-66 375 endpoint. Several inquiries for full cargoes for August lifting came at the close of the week, and it is believed some of this business will be fixed this week.

Export kerosene continued quoted at 4 cents for prime white and 4¼ cents for water white, likewise nominal, although no cargo trading has been reported for some months. South American cargo kerosene business, formerly a factor in the U. S. Gulf market, is now being largely handled by refiners in the Dutch West Indies and at Trinidad, it is understood.

Crude oil for export was unsettled, although it was reported several cargo inquiries were pending. The 10-cent cut in pipe line charges from East Texas fields to Gulf loading terminals offset in part the advance made in posted prices for crude. At the close of the week it was reported one or more cargoes of East Texas oil might be arranged between 92½ and 97½ cents. This compares with 70 cents on last actual sales, but is slightly under the price at which oil could be bought in the open market and pipelined to the Gulf through regular trade channels.

California Oil Receipts

Receipts of California refined oil at Atlantic ports during the week ended July 1 totaled 74,000 bbls., a daily average of 10,571 bbls., compared with a daily average of 9,857 bbls. for the previous week and 30,214 bbls. daily for the four weeks ended July 1. The 74,000 bbls. received during the week, all of gasoline, came in at New England ports.

At the close of the week the following cargoes of California oil were reported afloat for Atlantic Coast ports:

For Marcus Hook, Pa.—117,000 bbls. of gasoline on the Sun Oil Co. tanker Chester Sun.

For Tiverton, R. I.—74,000 bbls. of gasoline on the Union Oil Co. tanker Deroche.

For Fall River, Mass.—78,000 bbls. of gasoline on the tanker Hagan.

For Philadelphia—114,000 bbls. of gasoline on the Sun Oil Co. tanker Eastern Sun.

For Bayway—74,000 bbls. of gasoline on the tanker Phoenix.

For Chester, Pa.—115,000 bbls. of gasoline on the Sun Oil Co. tanker Sunoil.

For Baltimore—118,000 bbls. of gasoline on the Sun Oil Co. tanker Northern Sun.

Petroleum Exports

The following table shows exports of principal refined petroleum products from the port of New York during the three weeks ended July 1 (all figures in gallons unless otherwise noted):

	Week ended		
	July 1	June 24	June 17
Gasoline	90,000	277,000	9,000
Naphtha	4,000	250,000	.....
Kerosene	15,000	110,000	9,000
Fuel and gas oil	5,000	275,000	.....
Lub. oil	661,000	3,495,000	735,000
Pet., refined	128,000	522,000	4,000
	Pounds		
Petrolatum	13,000	80,000	2,000
Paraffin wax	1,500,000	1,346,000	2,320,000
Refined	.....	221,000	399,000
Scale	475,000	745,000	940,000

Imports

Imports of crude and refined oils at the principal United States ports for the week ended July 1 totaled 768,000 bbls., a daily average of 109,714 bbls., compared with 521,000 bbls., a daily average of 74,429 bbls. for the previous week, and a daily average of 86,571 bbls. for the four weeks ended July 1. Details follow:

(Barrels of 42 gallons)

At Atlantic Coast ports—	
Baltimore	80,000
New York	346,000
Philadelphia	235,000
Others	107,000
Total	768,000
Daily average	109,714

There were no imports at Gulf Coast ports during the week.

The week's imports consisted of 571,000 bbls. of crude oil and 197,000 bbls. of fuel oil.

Large Gasoline Consumption in Chicago District Offsets to Some Extent Excess Production

By R. C. CONINE
Chicago Bureau, The Oil and Gas Journal

CHICAGO, July 10.—Continued heavy consumption of motor fuel in the territory is easing the adverse influence of excess gasoline pouring in principally from East and North Central Texas. Jobber buying is at a minimum following their splurge for the holidays, and no arguments based on the betterment in crude oil appear effective as stimulants to business. The mixed situation in the tank wagon and service station markets in which Standard Oil Co. (Indiana), Texas Co., and Deep Rock Oil Corp., are posting prices half a cent under those of the other large marketers, is matched by a similar situation in the crude oil markets, as described elsewhere in this issue. However, it appears likely that the marketers who advanced a full cent instead of the half-cent Standard boost will all have reduced their postings the half cent some time this week.

Gasoline Holds to Small Loss

While gasoline tank car prices quoted Monday are generally an eighth of a cent under those published last week, today's prices represent a substantial advance over offerings made during the week on all grades, including "off color" antiknock materials, dyed or natural. One East Texas refiner advanced yellow antiknock of 62 octane guaranteed from 3⅛ cents for resale to 4¼ cents, Group 3. Distributors looking for bargains report that the abnormally low priced regular and premium grades have been eliminated. However, representative sales of regular and premium gasoline show a slight downward adjustment of these materials due to increased supplies. Mounting fuel oil stocks is making it imperative to resort more and more to cracking with the result that more of the antiknock fuels are going into the open markets.

Major Trackage Stations

At least two major company marketing executives are convinced that no legal bars will be placed against operators of trackage stations who undersell competitors of the higher overhead classification. These marketers deserve their profits, these officials contend, if they are conducting their business honestly and have reduced operating expenses to a minimum. It is reported that one major company is making every effort to buy the Chicago district trackage stations for the purpose of operating them under a management entirely separate from the major company. The following observations are those of one of the executives mentioned above:

"It is very unlikely that economical management as typified in the trackage station will be penalized under the National Industrial Recovery Act. It is much more probable that when the books of the various types of gasoline and motor oil retailers are examined the fact that haul stations as well as trackage stations of many independents are operated at a lower cost per gallon basis will bring up the political question: 'who is paying for the additional costs of operating the larger company stations?' The upshot will probably be that expensive units will be banned, while every encouragement will be given to those who can lower the cost to the public and still make a profit.

"It appears to me to be a wise move on the part of a major oil company to form a trackage station low operating cost subsidiary which would be entirely separate from the parent company with its huge overhead. Of course, the question of employment is involved in any drastic reconstruction of the retail end of the business, but as the public will foot the bill it is not likely that any great number of uneconomical units will be forced to continue losing money to provide work for attendants."

Price cutters are protesting vigorously against the proposed code rules which relate to price fixing and which prohibit advertising claims of underselling competition. The independent units are working to lower their costs in every direction. Dixie Distributors, Inc., of Michigan, has formed a subsidiary, Dixie Terminals Oil Co., which is now operating barges to Riverview (12 miles south of Detroit on the river) and Bay City, where large bulk plant terminals have been erected. Gasoline is moved from these storage plants by tank wagon and tank car.

Must Cut Gasoline Production

In Chicago district oil trade circles it is believed that a surplus of between 700 and 1,000 tank cars of low octane gasoline must be eliminated from the open markets immediately, and that gasoline production by East and North Central Texas refiners, estimated at 1,000 tank cars a day by a major company executive, must be greatly reduced, if a debacle is to be averted. On Monday all of the refiners in the field whose prices were available were holding to considerably higher levels than during the middle of last week, but it was also a fact that some of these refiners were worried because they could not find a home for rolling goods. An indication of the peculiar situation in the open markets is given in the experience of a Chicago broker. This broker (or distributor under the new Illinois law) was offered seven cars of antiknock gasoline last week at 3⅛ cents, Group 3. He tried to sell the material at 3⅜ cents and could find no buyers. When he asked for a few more days to move the gasoline, the refiner advised him that the price had gone up to 4¼ cents. The moral seems to be that when jobbers have all the gasoline they want in hand, one price is about as good as another.

Prices Monday were as follows: Regular grade, 4⅜ to 4⅝ cents, off an eighth on the low; premium, 4½ to 4¾ cents, off an eighth on the low; third grade, 3⅝ to 4 cents, unchanged; 60-62 400, 3⅞ to 4 cents, down an eighth to a quarter of a cent; 64-66 375, 4⅛ to 4¼ cents, down an eighth to a quarter of a cent; 68-70 360, 4¼ to 4⅜ cents, down an eighth to a quarter of a cent; aviation, fighting grade, 4⅜ to 4⅝ cents, down an eighth of a cent.

Special Naphthas Unsettled

Although producers of special naphthas report that their business has trippled in the past month, one of them announcing that business in June outstripped any month in the past three years, the proneness of certain refiners to seek business on a cut price basis has unsettled the special naphtha markets after they appeared to be well on their way to being stabilized at higher levels. The manufacturers who are selling their paint naphthas at lower prices contend that they cannot advance their postings because the paint companies have not made price advances. However, the paint manufacturers are not making products for immediate sale at current low prices, and there's nothing to prevent paint advances as soon as the warehouses are well stocked. The fact that many people are doing their own cleaning now that cleaners and dyers have moved their schedules up is helping tank wagon business and with the lower efficiency of home cleaning this business

(Continued on Page 43)

Do You Remember?

From The Oil and Gas Journal Files

25 Years Ago

July 11, 1908

The largest pools in the Gulf Coast Field are Jennings, Louisiana, 16,000 bbls. per day, and Humble, Texas, 10,000 bbls. per day.

The Pennsylvania Oil Co.'s monster gusher between Tampico and Tuxpam, in Mexico, is on fire. It is variously estimated as flowing between 50,000 and 100,000 bbls. per day. The reflection of the fire can be seen hundreds of miles out at sea. Charles H. Rathbone, Lewis Emery, Jr., and others own the well.

"Bill" Gray, Barr C. Averill and Homer Chambers, all of Beaumont, Tex., have secured an exclusive concession from the government of Colombia, South America, for the purpose of boring for oil, laying of pipe lines and operating the oil business generally, near the city of Cartegena and along the banks of the Sinu River.

20 Years Ago

July 17, 1913

The Standard Oil Co. of Indiana has decided to build a large refinery in Casper, Wyo., and has purchased 8 acres of land at $300 per acre for the site. C. H. Manback will have charge of the construction.

Henry P. Wescott is the author of a new book, "Handbook of Natural Gas," and Sir Boverton Redwood is the author of "A Treatise on Petroleum," just published by Lippincott.

Timothy Spellacy, personal representative of Secretary of the Interior Franklin P. Lane, is investigating natural gas conditions in the Osage Nation. Mr. Spellacy being both capable and honest, the secretary may expect that both the producer and the Indian will get a fair deal from the investigator.

P. J. White and H. F. Sinclair of the oil firm of White & Sinclair have taken over the Tulsa street railway system and are said to be contemplating an interurban railway system between Independence, Kans., and Tulsa.

Joseph E. Guffey and E. N. Gillespie are among the latest of eastern oil men to enter the Mid-Continent Field, with offices in Tulsa.

F. A. Leovy, of Beaumont, Tex., vice president of the Gulf Pipe Line Co., stopped over in Tulsa on a trip from St. Louis, Mo.

The average price of crude oil per barrel in the United States in 1912 was 73.7 cents and in 1911 it was 60.8 cents per barrel, according to government statistics just made public. The price in 1912 varied as follows: California 45.4 cents, Illinois 85.1 cents, Indiana 91.3 cents, Kansas 68.8 cents, Kentucky 87.7 cents, Louisiana 75.8 cents, New York $1.60, Ohio $1.34, Oklahoma 67.4 cents, Pennsylvania $1.644, Texas 75.4 cents, Wyoming-Utah 50.7 cents, Colorado 97.3 cents, West Virginia $1.643.

Oil is 93 cents per barrel in Oklahoma and Kansas and producers are confident it will go to $1.

10 Years Ago

JULY 12, 1923

The 22 wells in the Powell Field in Texas, flowing through small chokers, produced 68,757 bbls. in 24 hours. Pipe line work is being rushed so that the purchasing companies can keep up with their rapidly mounting production of the new pool. The Smackover Field in Arkansas is producing 150,000 bbls. per day and Santa Fe Springs reached the 315,000-bbl. daily average this week.

Frank Algeo, widely known oil man, drops dead in Casper, Wyo.

Doctor Cook and 22 other "oil company" promoters are indicted by the Federal Grand Jury for using the mails to defraud.

Gulf Coast crudes are reduced 25 cents per barrel and Pennsylvania Grade crudes are cut 25 cents, because of the general overproduction of crude oil.

A total of 13,048,128 motor cars were registered in the United States up to June 30, a gain of 2,400,000 over the same period in 1922.

The Magnolia Petroleum Co. pays $1,000,000 for the Kansas & Gulf Co.'s properties in Wichita County, Texas.

The directors of the A. G. fur Petroleum-Industrie, a German oil company are paid in gasoline for their attendance at meetings. They each receive 30 imperial gallons of motor fuel per year.

NEWS FOR PETROLEUM REFINERS

May Exports of Motor Fuel Continue to Show Decline

WASHINGTON, D. C., July 10.—Imports of crude petroleum during May, according to the Bureau of Foreign and Domestic Commerce, totaled 2,206,169 bbls., 583,053 bbls. coming from Mexico; 299,000 bbls. from Colombia; and 1,323,545 bbls. from Venezuela. This compares with total April imports of 2,909,539 bbls., 264,579 bbls. coming from Mexico; 783,000 bbls. from Colombia; 79,723 bbls. from Ecuador; and 1,782,237 bbls. from Venezuela.

Fuel oil, including topped petroleum, imported in May totaled 719,891 bbls., of which 689,732 bbls. came from Netherland West Indies and 30,159 bbls. from Canada.

During April this same grade of fuel oil imported totaled 1,413,758 bbls., of which 1,282,719 bbls. came from the Netherland West Indies, 107,890 bbls. from Mexico, and 23,149 bbls. from Canada.

Imports of paraffin and paraffin wax increased from 622,447 pounds in April to 1,444,981 pounds in May. The May imports were composed of 728,000 pounds from British India and 716,981 pounds from the Netherland East Indies. April imports were practically all from Netherland East Indies.

Exports of petroleum crude declined from 2,939,273 bbls. in April to 2,677,922 bbls. in May.

Exports of gasoline, naphtha and other finished products in bulk declined from 2,935,056 bbls. in April to 1,890,605 bbls. in May, and in containers declined from 89,002 bbls. in April to 64,477 bbls. in May.

SHELL BUILDING DOCKS

HOUSTON, Tex., July 8.—Shell Petroleum Corp. announced that it had awarded contract for construction of oil docks at Lake Charles, La., to Spencer & Howe of Port Arthur, Tex. The material contract went to the National Creosoting Co., of Houston.

The docks, costing $21,000, will accommodate one large and one small tanker and one barge. The docks will be used as a sea loading oil terminal. The company will barge crude oil from its Louisiana coastal fields to the new docks and tranship to tankers, thence to its refineries.

BUYS WYOMING REFINERY

CASPER, Wyo., July 8.—The refinery built in Sheridan by Smith, Close and Royal K. Salisbury, was sold the past week to Charles Britton and associates, and added to their chain of skimming plants. Several Osage operators made bids for the property. It will be supplied with Osage crude.

EXPECT GOOD BUNKER SALES

CHICAGO, July 10.—Members of the Chicago Oil Burner Association anticipate a large increase in sales during the third quarter of this year based upon the unusually high number of inquiries being received now. While no actual figures have been made public, all manufacturers and sales companies are participating about equally in the inquiries handled and the development is considered general and will improve over the balance of the year.

TEST MINNESOTA TAX

Eight station operators will refuse to pay a state chain store tax under the new law enacted by the 1933 legislature in a court test of legality, the Minnesota Tax Commission was advised July 5.

Dismantlement of Plant Equipment Does Not Relieve the Payment of Tax

The Bureau of Internal Revenue has announced the following ruling with respect to the taxability of gasoline when sold by a producer who has temporarily discontinued producing activities:

"Advice is requested whether sales made by a producer of gasoline whose producing activities have been temporarily discontinued are subject to the tax imposed by Section 617 of the Revenue Act of 1932.

"A company actively engaged in its business as a producer of gasoline, within the meaning of Section 617 of the Revenue Act of 1932, does not cease to be a producer upon the temporary discontinuance of producing activities for such reasons as adverse business conditions, excess inventories, etc. In cases such as this where it intends to resume the production, blending, or compounding of gasoline, it retains the status of a producer, with all the rights and liabilities accompanying such status.

"Where a producer of gasoline disposes of its producing equipment and abandons its producing operations for all time it will nevertheless for tax purposes be regarded as a producer of any gasoline sold by it which was produced, compounded, blended, or purchased tax free by it during the period in which it was actively producing, compounding, or blending gasoline. After permanently abandoning its producing operations, it would, of course be improper for it to continue purchasing gasoline tax free under an exemption certificate as a producer."

Kansas Increases Tax Returns With New Plan

An increase of nearly 20 per cent in gasoline tax collections resulted from the first month's enforcement of a new and stringent law designed to prevent gasoline bootlegging and tax evasion in Kansas.

Kansas is the second state to report an increase in gasoline tax revenues despite a substantial decline in gasoline consumption, the comptroller of Texas recently reporting that enforcement of a new antitax evasion law there having increased collections to such an extent as to indicate that the State previously had been losing at least 10 per cent of its revenues from this source.

The reports are taken in oil circles to indicate the accuracy of statements that the various states are losing considerable revenue through gasoline tax evasion and the error in estimates of state officials that losses could not possibly exceed 6 per cent.

Seth G. Wells, Kansas inspector of oils, reported that collections for May totaled $742,502.17, as compared with $614,034.92 in May, 1932. Governor Landon expressed approbation of the results of the new law in the face of a 10 per cent decline in consumption.

Under the new Kansas law registration offices are established on main highways entering the State, and every carrier of motor fuel is required not only to be licensed and bonded, but to stop at the registration offices, show all credentials, and have tank openings sealed by proper authorities. County attorneys and peace officers are authorized to do the work of oil inspectors appointed under the law. Fuel and transportation equipment can be seized as contraband in case papers are not in order, and operators fined $25 to $500. It is believed the law effectively will stop the running of gasoline into Kansas from other states and the consequent evasion of taxes due Kansas.

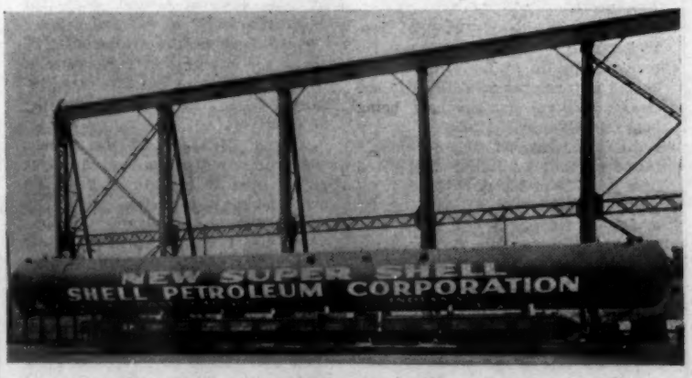
CONNECT TO GASOLINE LINE

The Sinclair Refining Co. will lay gasoline lines from its refineries in Sand Springs, Okla., and Coffeyville, Kans., to nearest points along the Great Lakes Pipe Line Co.'s gasoline line from the Mid-Continent to Chicago and Minneapolis. This follows the purchase of a 3 per cent interest in the line by the Consolidated Oil Corp. from the Barnsdall Refineries, Inc.

PHILLIPS IN LOUISVILLE

The Phillips Petroleum Co. has established seven gasoline stations in Louisville, Ky. The company now has stations in 16 states.

New Stabilizer Tower for Shell Plant in East Chicago



New stabilizer tower being shipped from the C. F. Braun & Co. plant in California to the Shell Oil Company refinery at East Chicago where it will be used in connection with a Dubbs cracking installation

Spartan Refining to Build 2,000-Barrel Cracking Unit

The Spartan Refining Co. will start construction on a 2,000-bbl. Gyro cracking unit within 10 days at its Shreveport, La., plant. Contract for the work has been let to the Alco Products Co., and calls for completion of the construction in five months.

The move is one of several expected in refineries in the area supplied with East Texas crude for the reason that as the field witnesses a natural decline in crude production and prices are correspondingly advanced, including refined products, the relatively large surplus of fuel oil in the area makes cracking an attractive consideration.

The Spartan Refining Co. expects to spend several hundred thousand dollars in the new installation and upon completion will equip the 10,000-bbl. refinery to make a motor fuel of high octane value.

East Texas crude is supplied to the refinery through a 170-mile pipe line extending from Longview to the refinery site. The Spartan Refining Co. is a subsidiary of the Atlas Pipe Line Co.

PRIZES FOR SUGGESTIONS

NEW YORK, July 10.—F. Garrison and M. Geduldick of the Bayonne refinery of Tide Water Oil Co., have been awarded $100 for their suggestion of the rerunning of pressure tar and spindle distillate at a considerable reduction in cost.

W. Grosvenor of the cracking coils, was awarded $23 for three suggestions, involving the extension of the quench line to the bottom of No. 1 primary tower, a connection for steaming out the soaker tar line, and a connection from the heavy distillate line to the suction of the quench pumps.

J. Sweeney of the filter plant earned $18 for three suggestions, being awarded $10 for a ventilating idea on top of the clay storage bins, $5 for the elimination of a bin by the installation of a new line from other bins, and the suggestion for a box damper on top of the Herreshoff burners.

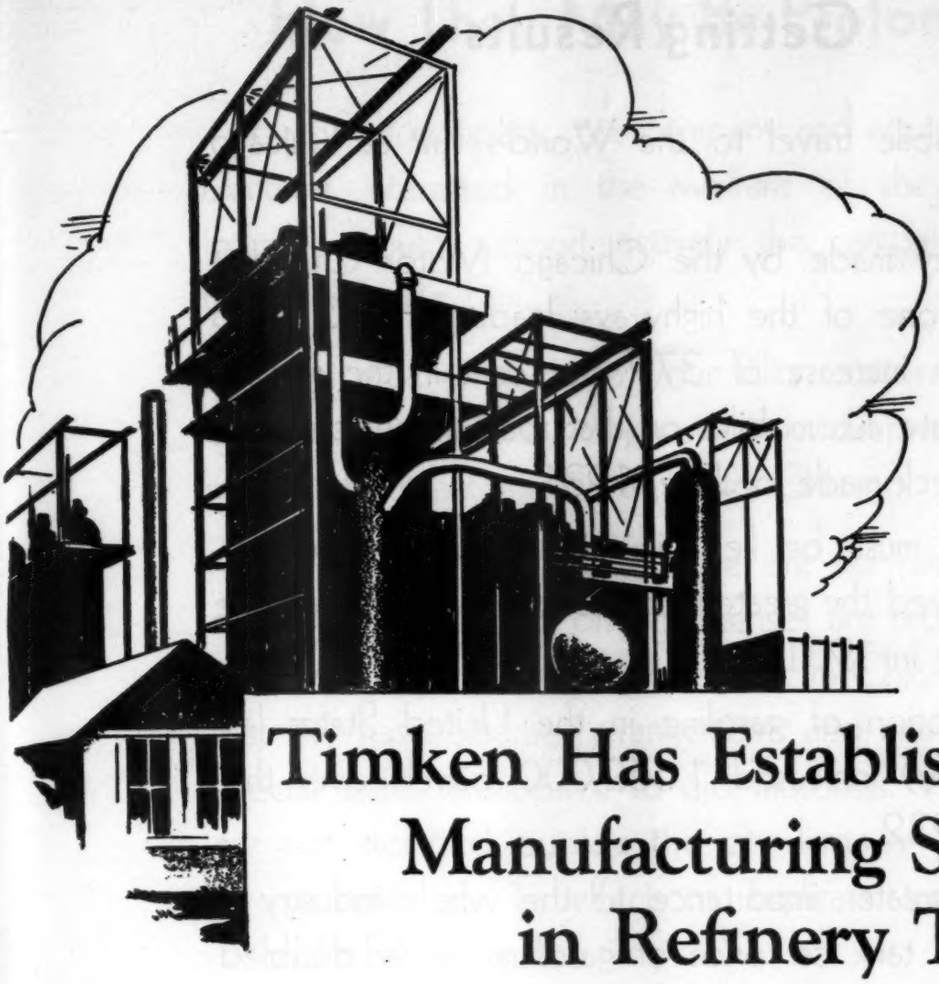
LICENSE BROKERS IN ILLINOIS

The State of Illinois has extended the scope of its licensing prerogative to include brokers who acquire title and then resell to customers. "Recent investigations disclose," J. M. Braude, of the motor fuel tax division of the finance department, says, "that many so-called brokers have been acting as distributors within the meaning of the term as defined by the motor fuel tax law of this state. Accordingly this memorandum is being sent to all brokers holding Illinois permits, advising them that if, in their transactions, they receive orders from customers in this state, which orders are filled by shipments from without the state, the refiner without the state invoicing the broker who, in turn, invoices the customers, such transactions are of a nature that can lawfully be made only by licensed distributors and in such transactions the so-called broker will be required to obtain a distributor's license from this department and will also be required to post the bond provided by law."

FEDERAL TAX PAYMENTS

The oil industry paid more than $15,000,000 in taxes to the Federal Government in May under the new revenue act. The division of the respective taxes is shown below.

Lubricating oils	$2,066,215.31
Gasoline	12,773,674.06
Pipe lines	312,320.00



Timken Has Established Definite Manufacturing Standards in Refinery Tubes

Timken has placed seamless tubes for refinery service on the same standardized quality basis as all other Timken products.

After intensive study of refinery requirements extending over a period of years, Timken metallurgists developed special alloys to meet practically every condition of refinery operation.

You can buy refinery tubes on Timken recommendation with the assurance of maximum life in the particular phase of service for which they are intended.

At this time cracking equipment is of vital concern to every refiner. Whether you are thinking of installing new stills or reconditioning old ones it will pay you to specify Timken tubes.

Timken refinery tube specialists will be glad to discuss your tube problems at any convenient time.

THE TIMKEN STEEL AND TUBE COMPANY, CANTON, OHIO

Detroit Chicago New York Los Angeles Boston
Philadelphia Houston Buffalo Rochester Syracuse

TIMKEN STEEL TUBES

Getting Results

Automobile travel to the World's Fair at Chicago is increasing.

A survey made by the Chicago Motor Club last month on one of the highways leading into Chicago showed an increase of 379 per cent in the number of out-of-state automobiles on that road as compared to a similar check made in June, 1931.

And, it must be kept in mind, the petroleum industry enjoyed the greatest domestic demand for gasoline in its history in 1931.

Consumption of gasoline in the United States last month (June) increased 1,662,000 barrels over that of June, 1932.

But of greater importance to the whole industry is the fact the tank car price of gasoline nearly doubled during June of this year.

The tank car price of the regular grade of gasoline (Group 3) on May 30 was 2½ cents a gallon. On July 5 it was 4½ cents a gallon.

Crude oil prices have been increased and many expect further advances.

The World's Fair at Chicago will be open for 3½ months longer. These 3½ months constitute the best motoring season of the year.

The petroleum industry has its greatest opportunity to still further increase consumption of its main products and to strengthen price structures.

How They May Be Prolonged

Every oil company, tire company and equipment manufacturer interested in the welfare of the petroleum industry should support actively the campaign "Motor to the World's Fair".

Give the real facts to your filling station attendants and salesmen so they may combat widespread misinformation about automobile travel to Chicago.

Spread the word that there are no restrictions on driving to the fair; no drivers' licenses are required; there is no congestion of automobile traffic in Chicago because that city has elaborate arrangements and more than 160 special traffic policemen to aid motorists. Automobiles are not stopped outside the city limits; in fact special arrangements are in effect to facilitate travel to the World's Fair grounds.

There are parking facilities for thousands of cars right at the gates of the Exposition.

There are plenty of rooms available in Motor Villages, private homes, apartments and hotels at rates averaging from $1.00 to $2.00 per person per night.

The Oil and Gas Journal has prepared a small folder giving these facts.

Get busy at once and distribute this information so that there will be a further increase in gasoline and lubricating oil consumption and a continued strengthening of the price structures.

MOTOR-TO-CHICAGO
NATIONAL CAMPAIGN
Care of The Oil & Gas Journal, Tulsa, Oklahoma

Bureau of Mines Statistics for the Month of April, 1933

SUPPLY AND DEMAND OF ALL OILS
(Thousands of barrels of 42 U. S. gallons)

	April, 1933	March, 1933	April, 1932	Jan.-Apr., 1933	Jan.-Apr., 1932
NEW SUPPLY:					
Domestic:					
Crude petroleum	65,313	75,302	67,717	265,642	264,274
Daily average	2,177	2,429	2,257	2,214	2,184
Natural gasoline	2,674	2,771	3,102	10,864	12,790
Benzol*	89	88	105	360	449
Total production	68,076	78,161	70,924	276,866	277,513
Daily average	2,269	2,521	2,364	2,307	2,293
Imports:					
Crude petroleum	2,910	3,803	7,691	11,913	11,286
Refined products	1,354	1,506	4,683	5,650	15,797
Total new supply, all oils	72,340	83,470	83,298	294,429	312,596
Daily average	2,411	2,693	2,777	2,454	2,583
Increase in stocks, all oils	†4,449	8,114	2,643	538	3,052
DEMAND:					
Total demand	76,789	75,356	80,655	293,891	309,544
Daily average	2,560	2,431	2,689	2,449	2,558
Exports:					
Crude petroleum	2,939	2,137	2,867	8,899	8,446
Refined products	6,732	5,418	7,772	22,946	27,745
Domestic demand	67,118	67,801	70,016	262,046	273,353
Daily average	2,237	2,187	2,334	2,184	2,259
Excess of daily average domestic production over domestic demand	32	334	30	123	34
STOCKS (end of month):					
Crude petroleum:					
East of California	294,983	301,799	328,719	294,983	328,719
California‡	39,516	39,909	42,547	39,516	42,547
Total refinable crude	336,499	341,708	371,266	336,499	371,266
Natural gasoline§	3,590	3,548	4,345	3,590	4,345
Refined products‡	248,558	247,840	260,064	248,558	260,064
GRAND TOTAL STOCKS ALL OILS	588,647	593,096	635,675	588,647	635,675
Days' supply	230	244	236	240	249
Bunker oil (included above in domestic demand)	2,826	2,812	3,436	11,119	13,102

*Based upon production of coke reported to Coal Division by those by-product coke plants that recover benzol products. †Decrease. ‡California heavy crude and residual fuel included under refined products. §Includes motor blends held at natural gasoline plants.

COMPARATIVE ANALYSES
(Thousands of barrels of 42 U. S. gallons)

	April, 1933 Total	April, 1933 Daily av.	March, 1933 Total	March, 1933 Daily av.	Jan.-Apr., 1933	Jan.-Apr., 1932
CRUDE PETROLEUM:						
Runs to stills:						
Domestic	65,913	2,197	64,708	2,087	252,158	258,254
Foreign	2,909	97	3,276	106	11,783	13,908
Total	68,822	2,294	67,984	2,193	263,941	272,162
Imports	2,910	97	3,803	123	11,913	19,286
Exports	2,939	98	2,137	69	8,899	8,446
MOTOR FUEL:						
Production	32,569	1,086	32,362	1,044	124,314	133,604
Imports	1	.....	3	.....	4	5,255
Exports*	3,256	109	2,363	76	10,104	13,120
Stocks, gasoline	56,184	.....	57,008	.....	56,104	64,466
Stocks, natural gasoline	3,590	.....	3,548	.....	3,590	4,345
Domestic demand	30,176	1,006	28,227	911	108,225	112,154
KEROSENE:						
Production	4,046	135	3,877	125	15,977	14,285
Imports	.....	.....	.....	.....	.....	4
Exports	718	24	649	21	2,891	3,435
Stocks	5,230	.....	4,827	.....	5,230	4,417
Domestic demand	2,925	98	2,975	96	12,830	11,769
GAS OIL AND FUEL OIL:						
Production	24,896	830	26,091	842	100,348	101,295
Transfers†	693	23	984	32	3,731	2,044
Imports	1,348	45	1,480	48	5,569	10,441
Exports	1,670	56	1,469	47	6,388	7,964
Stocks	123,969	.....	123,525	.....	123,969	126,776
Domestic demand	25,123	837	27,469	886	108,262	114,896
LUBRICANTS:						
Production	1,871	62	1,794	58	7,113	7,932
Imports	.....	.....	.....	.....	.....	7
Exports	563	29	751	24	2,655	2,371
Stocks	8,330	.....	8,712	.....	8,330	9,139
Domestic demand	1,390	46	1,143	37	4,493	5,914
WAX (thous. of pounds):						
Production	37,800	1,260	36,400	1,174	138,880	175,840
Imports	622	21	956	31	8,097	18,530
Exports	25,635	855	22,462	725	88,480	75,240
Stocks	124,927	.....	136,785	.....	124,927	184,486
Domestic demand	24,695	822	25,958	837	97,198	106,864
COKE (short tons):						
Production	137,600	4,587	147,000	4,742	486,400	536,600
Stocks	1,148,900	.....	1,148,500	.....	1,148,900	1,519,800
ASPHALT (short tons):						
Production	152,000	5,067	123,800	3,994	472,300	652,800
Imports (natural)	300	10	3,400	110	7,600	4,500
Stocks	305,800	.....	304,400	.....	305,800	391,300
ROAD OIL:						
Production	356	10	219	7	807	780
Stocks	998	.....	803	.....	998	825
STILL GAS:						
Production	3,557	119	3,368	109	13,063	13,818
MISCELLANEOUS:						
Production	101	3	112	4	412	858
Stocks	442	.....	425	.....	442	608

*Includes benzol, 34,005 bbls. in April, 1933. †Includes crude used as fuel and net transfers to fuel oil stocks.

INDICATED DOMESTIC DEMAND FOR CRUDE PETROLEUM
(Thousands of barrels of 42 U. S. gallons)

Domestic petroleum by fields of origin:	April, 1933 Total	April, 1933 Daily av.	March, 1933 Total	March, 1933 Daily av.	Jan.-Apr., 1933	Jan.-Apr., 1932
Appalachian:						
Pennsylvania Grade	1,680	56	1,727	56	6,727	7,060
Other (inc. Ky.)	595	20	510	16	2,091	2,797
Lima-N.E. Ind.-Mich.	504	17	664	21	2,427	2,297
Ill.-S.W. Ind.	330	11	358	12	1,256	1,304
Mid-Continent:						
No. La. and Ark.	1,921	64	1,406	45	7,660	8,926
W. Tex.-S.E. N. Mex.	7,068	235	6,985	225	25,422	28,271
Other (Okla., Kans., N. Tex., etc.)	36,962	1,232	36,149	1,166	139,337	137,294
Gulf Coast	5,702	190	6,657	215	23,145	15,657
Rocky Mountain	1,051	35	1,046	34	4,294	5,013
California	12,953	465	12,633	408	51,624	59,619
Total demand	69,756	2,325	68,135	2,198	263,983	268,228
Exports	2,939	98	2,137	69	8,899	8,446
Domestic demand	66,817	2,227	65,998	2,129	255,084	259,792
Foreign petroleum	2,973	99	3,481	112	12,346	13,778
Total domestic demand	69,790	2,326	69,479	2,241	267,430	273,570

PRODUCTION OF CRUDE PETROLEUM BY STATES AND PRINCIPAL FIELDS
(Thousands of barrels of 42 U. S. gallons)

	April, 1933 Total	April, 1933 Daily av.	March, 1933 Total	March, 1933 Daily av.	Jan.-Apr., 1933	Jan.-Apr., 1932
Arkansas	956	32	949	30	3,669	3,938
California:						
Kettleman Hills	1,797	60	1,846	60	7,049	7,272
Long Beach	2,211	74	1,925	62	8,224	9,799
Santa Fe Springs	1,618	54	1,509	49	6,293	7,975
Rest of State	8,637	287	8,135	262	33,679	36,203
Total California	14,263	475	13,415	433	55,245	61,249
Colorado	71	3	87	3	320	442
Illinois	284	9	314	10	1,158	1,727
Indiana:						
Southwestern	50	2	51	2	193	276
Northeastern	1	.....	1	.....	4	11
Total Indiana	51	2	52	2	197	287
Kansas	3,564	119	3,597	116	12,900	11,451
Kentucky	350	12	380	12	1,504	1,986
Louisiana:						
Gulf Coast	1,238	41	1,127	36	4,321	3,570
Rest of State	865	29	924	30	3,404	3,220
Total Louisiana	2,103	70	2,051	66	7,725	6,790
Michigan	464	15	441	14	1,733	1,850
Montana	159	5	159	5	622	843
New Mexico	1,092	36	1,175	38	4,294	4,523
New York	245	8	272	9	1,010	1,218
Ohio:						
Central and Eastern	264	9	278	9	1,064	1,181
Northwestern	79	3	84	3	318	353
Total Ohio	343	12	362	12	1,382	1,534
Oklahoma:						
Oklahoma City	3,102	104	6,207	200	16,734	13,203
Seminole	3,062	102	3,419	110	12,925	15,233
Rest of State	5,796	193	6,073	196	23,292	24,620
Total Oklahoma	11,960	399	15,699	506	52,951	53,056
Pennsylvania	992	33	1,011	33	3,879	4,183
Tennessee	.....	.....	.....	.....	1	2
Texas:						
Gulf Coast	4,613	154	4,521	146	16,576	12,547
West Texas	4,911	164	4,974	160	19,422	21,895
East Texas	10,467	349	17,360	560	48,919	40,084
Rest of State	7,235	241	7,217	233	27,244	28,676
Total Texas	27,226	908	34,072	1,099	112,161	103,202
West Virginia	288	9	286	9	1,130	1,311
Wyoming:						
Salt Creek	564	19	633	21	2,429	2,801
Rest of State	338	11	347	11	1,331	1,881
Total Wyoming	902	30	980	32	3,760	4,682
Total United States	65,313	2,177	75,302	2,429	265,642	264,274

PRODUCTION OF CRUDE PETROLEUM BY DISTRICTS
(Thousands of barrels of 42 U. S. gallons)

	April, 1933 Total	April, 1933 Daily av.	March, 1933 Total	March, 1933 Daily av.	Jan.-Apr., 1933	Jan.-Apr., 1932
Appalachian:						
Pennsylvania Grade	1,654	55	1,698	55	6,526	7,284
Other (inc. Kentucky)	485	16	529	17	2,062	2,597
Lima-N. E. Ind.-Mich.	544	18	526	17	2,055	2,214
Ill.-S. W. Ind.	334	11	365	12	1,351	2,003
Mid-Continent:						
N. La. and Ark.	1,821	61	1,873	60	7,073	7,158
W. Texas- S.E. New Mex.	5,971	199	6,117	197	23,605	26,281
Other (Okla., Kans., N. Tex., etc.)	33,226	1,108	43,873	1,415	142,014	133,267
Gulf Coast	5,851	195	5,648	182	20,897	16,117
Rocky Mountain	1,164	39	1,258	41	4,814	6,104
California	14,263	475	13,415	433	55,245	61,249
Total	65,313	2,177	75,302	2,429	265,642	264,274

STOCKS OF CRUDE PETROLEUM
(Thousands of barrels of 42 U. S. gallons)

	April 30, 1933	March 31, 1933	April 30, 1932
EAST OF CALIFORNIA:			
At refineries by location:			
East Coast: Domestic	8,422	8,324	8,771
Foreign	5,213	5,134	7,613
Appalachian	2,363	2,340	2,274
Indiana, Illinois, Kentucky, Michigan	3,557	3,558	3,600
Oklahoma, Kansas, and Missouri	4,487	4,483	5,198
Texas: Inland	2,060	1,916	1,233
Gulf Coast: Domestic	6,021	6,426	6,663
Foreign	49	78	194
Louisiana Gulf Coast: Domestic	3,041	2,926	472
Foreign	909	1,021	2,290
Arkansas and Inland Louisiana	469	450	2,195
Rocky Mountain	12,406	12,132	1,719
Total	48,997	48,889	42,222
At refineries by origin:			
Pennsylvania Grade	2,168	2,191	2,021
Other Appalachian (inc. Kentucky)	552	621	763
Lima-N.E. Indiana-Michigan	205	175	256
Illinois-S. W. Indiana	146	111	131
N. Louisiana and Arkansas	2,566	2,072	1,171
West Texas and S.E. New Mexico	3,861	4,467	3,119
Oklahoma, Kansas, N. Texas, etc.	16,624	16,696	18,398
Gulf Coast	4,327	4,218	4,764
Rocky Mountain	12,377	12,103	1,597
Foreign	6,171	6,234	10,002
Total	48,997	48,889	42,222
Pipe line and tank farm:			
Pennsylvania Grade	4,596	4,599	4,819
Other Appalachian (inc. Kentucky)	945	986	915
Lima-N.E. Indiana-Michigan	701	693	1,489
Illinois-S.W. Indiana	11,268	11,318	10,489
N. Louisiana and Arkansas	10,763	11,363	15,787
West Texas and S.E. New Mexico	30,245	30,797	33,483
Oklahoma, Kansas, N. Texas, etc.	156,630	160,742	175,127
Gulf Coast	9,925	9,931	14,024
Rocky Mountain	15,863	16,031	24,521
Total	240,936	246,460	280,645
Total refinery, pipe line and tank farm	289,933	295,349	322,867
Producers'	7,050	6,450	5,852
Total crude east of California	296,983	301,799	328,719
CALIFORNIA: Light	39,516	39,909	42,547
Total refinable crude in the United States	336,499	341,708	371,266

SHIPMENTS FROM CALIFORNIA TO EASTERN PORTS IN THE UNITED STATES*
(Thousands of barrels of 42 U. S. gallons)

	April, 1933	March, 1933	April, 1932	Jan.-Apr., 1933	Jan.-Apr., 1932
Gasoline	936	536	544	2,770	2,265
Natural gasoline	.....	.....	.....	81	73
Kerosene	30	.....	81	709	81
Gas oil and Diesel oil	88	149	71	1,215	188
Fuel oil	211	145	.....	585	.....
Lubricants	8	.....	9	16	19
Asphalt	.....	.....	.....	.....	3
Miscellaneous	1	73	1	105	3
Total	1,314	963	706	5,484	2,632

*Compiled by E. T. Knudsen of the San Francisco office of the Bureau of Mines.

NUMBER OF WELLS COMPLETED IN THE UNITED STATES*

	April, 1933	March, 1933	April, 1932	Jan.-Apr., 1933	Jan.-Apr., 1932
Oil	472	486	792	2,082	2,672
Gas	48	57	81	259	399
Dry	257	284	297	1,119	978
Total	777	827	1,170	3,469	4,050

*From The Oil and Gas Journal and California office of American Petroleum Institute.

RECORD OF WELLS FOR IMPORTANT FLUSH FIELDS, APRIL, 1933*

	Completions: Oil	Gas	Dry	Total initial production (bbls.)	Average initial production (bbls.)	Drilling Apr. 30
Texas	289	12	147	(†)	(†)	667
East Texas	95	...	3	(†)	(†)	89
Gulf Coast	97	1	16	144,000	1,500	137
West Texas	25	...	9	6,900	300	93
California	14	...	16	22,300	1,600	104
Kettleman Hills	3	...	...	18,000	6,000	11
Long Beach	4	...	...	2,000	500	14
Playa del Rey	...	...	2	.....	.....	3
Oklahoma	50	4	31	42,100	800	262
Oklahoma County	13	1	...	29,600	2,300	29
Pottawatomie and Seminole Counties	9	...	3	10,100	1,100	35
New Mexico	6	...	3	9,800	1,600	55
Lea County (Hobbs)	5	...	1	9,800	2,000	9
Other states	113	32	60	38,800	300	842
Total United States	472	48	257	(†)	(†)	1,930

*From The Oil and Gas Journal and California office of American Petroleum Institute. †Not available.

STOCKS HELD BY REFINING COMPANIES, APRIL 30, 1933
(Thousands of barrels of 42 U. S. gallons)

	Gasoline: At refineries	Bulk and pipe lines	Total	Kerosene	Gas oil and distillate fuels	Residual fuel oils
East Coast	6,230	10,099	16,329	1,222	2,480	3,756
Appalachian	1,650	799	2,449	234	438	215
Ind., Ill., Ky., etc.	5,786	2,501	8,287	410	1,354	1,883
Okla., Kans., Mo.	4,107	1,493	5,600	305	852	2,204
Texas inland	1,985	177	3,162	116	398	2,678
Texas Gulf	5,050	125	5,175	1,215	1,838	4,236
Louisiana Gulf	1,624	380	2,004	421	810	1,402
Ark. and La. inland	291	146	437	17	138	549
Rocky Mountain	1,555	.....	1,555	184	153	307
California	7,603	4,503	12,106	1,106	2,929	95,349
Total	35,881	20,223	56,104	5,230	11,390	112,579

	Wax (thousands of pounds)*: Lubricants	Crude scale	Refined	Total	Coke (tons)*
East Coast	2,720	19,015	15,392	34,407	18,100
Appalachian	1,121	17,097	2,159	19,256	6,000
Ind., Ill., Ky., etc.	994	17,652	1,420	19,072	84,300
Okla., Kans., Mo.	495	1,544	1,221	2,765	136,500
Texas inland	77	.....	156	156	113,200
Texas Gulf	1,788	2,208	11,802	14,010	515,500
Louisiana Gulf	86	1,951	4,329	6,280	71,300
Ark. and La. inland	9	.....	.....	.....	.....
Rocky Mountain	196	27,768	1,213	28,981	100,900
California	844	.....	.....	.....	103,100
Total	8,330	87,235	37,692	124,927	1,148,900

	Asphalt (tons)*	Road oil	Miscellaneous products	Unfinished oils	Natural gasoline
East Coast	102,500	140	81	7,428	51
Appalachian	14,200	48	25	1,829	2
Ind., Ill., Ky., etc.	72,300	72	73	7,586	34
Okla., Kans., Mo.	3,900	226	24	4,011	30
Texas inland	....	20	7	1,079	5
Texas Gulf	8,600	14	11	11,864	178
Louisiana Gulf	19,500	14	....	1,878	....
Ark. and La. inland	32,100	....	2	450	8
Rocky Mountain	3,100	171	9	2,157	....
California	50,600	293	210	†7,320	2,459
Total	305,800	998	442	45,612	2,767

*Beginning with the March report, the factor for coke is 5 bbls. per short ton instead of 5.1. The wax and asphalt factors remain unchanged at 280 pounds per barrel and 5.5 bbls. per short ton, respectively. †Includes 3,992,000 bbls. tops.

SHIPMENTS OF MOTOR FUEL BY PIPE LINES
(Thousands of barrels of 42 U. S. gallons)

	Apr., 1933	Mar., 1933	Apr., 1932	Jan.-Apr., 1933	Jan.-Apr., 1932
Motor fuel turned into lines	3,018	2,821	2,349	10,649	8,724
Motor fuel delivered from lines	3,092	2,800	2,357	10,631	8,391
Shortage	*3	2	....	5	18
Stocks in lines and working tanks end of month	1,211	1,282	1,277	1,211	1,277

*Overage.

GASOLINE PRODUCTION BY THE VARIOUS METHODS, APRIL, 1933
(Thousands of barrels of 42 U. S. gallons)

	Straightrun: Total	Pct. (*)	Pct. (†)	Cracked: Total	Pct. (*)	Pct. (†)	Nat. gaso.: Total	Pct. (†)	Gasoline: Total	Pct. (*)
East Coast	2,649	19 4	48 1	2,828	20.8	51.2	34	0.6	5,511	40.2
Appalachian	603	24.3	47 7	648	26 2	51.2	14	1.1	1,265	50 5
Ind., Ill., etc.	1,757	19.4	36.3	2,962	32.8	61.3	116	2.4	4,835	52.2
Okla., Kans., Mo.	2,166	27 9	51.0	1,741	22.4	41.0	337	8 0	4,244	50.3
Texas Inland	1,526	34.3	63.5	582	13.1	24.2	294	12 3	2,402	47 4
Texas Gulf	2,481	18.8	43.4	3,036	23.0	53.1	203	3.5	5,720	41 8
Louisiana Gulf	540	18 3	45 1	639	21.6	53.4	18	1.5	1,197	39 9
Ark. and La. Inland	348	25.8	52 9	277	20.5	42.1	33	5.0	658	46 2
Rocky Mountain	303	29.7	50.2	243	23 8	40.2	58	9 6	604	53 5
California	3,447	26 6	62.9	1,302	10.1	23 7	736	13.4	5,485	36 7
Total	15,820	23.0	49.5	14,258	20.7	44.7	1,843	5.8	31,921	43.7

* Per cent of crude run. †Per cent of total gasoline output.

CRACKING OPERATIONS

Fresh cracking stock charged to stills, bbls.	33,311,000
Gasoline produced by cracking, bbls.	14,258,000
Fuel oil produced by cracking, bbls.	11,079,000

RUNS TO STILLS AND OUTPUT OF REFINERIES, APRIL, 1933
(Thousands of barrels of 42 U. S. gallons)

INPUT—	Crude oil: Domestic	Foreign	Total	Unfinished oils rerun	Natural gasoline	Total input
East Coast	10,860	2,779	13,639	478	34	14,151
Appalachian	2,477	.....	2,477	318	14	2,809
Ind., Ill., Ky., etc.	9,043	.....	9,043	178	116	9,337
Okla., Kans., Mo.	7,761	.....	7,761	183	337	8,281
Texas Inland	4,446	.....	4,446	89	294	4,829
Texas Gulf	13,162	30	13,192	447	203	13,842
Louisiana Gulf	2,854	100	2,954	41	18	3,013
Ark. and La. Inland	1,350	.....	1,350	346	33	1,729
Rocky Mountain	1,021	.....	1,021	42	58	1,121
California	12,939	.....	12,939	397	*736	14,072
Total	65,913	2,909	68,822	2,519	1,843	73,184

OUTPUT—	Gasoline	Kerosene	Gas oil and distillate fuels	Residual fuel oils	Lubricants	Wax (thousands pounds)
East Coast	5,511	831	1,138	3,968	580	19,320
Appalachian	1,265	235	104	336	345	5,320
Ind., Ill., Ky., etc.	4,835	378	619	1,422	161	1,120
Okla., Kans., Mo.	4,244	658	410	1,570	181	2,520
Texas Inland	2,402	260	181	1,449	20	280
Texas Gulf	5,720	861	1,159	3,194	388	3,920
Louisiana Gulf	1,197	362	292	763	22	5,320
Ark. and La. Inland	658	67	175	442	6	.....
Rocky Mountain	604	40	80	206	28	.....
California	5,485	354	1,593	5,795	139	.....
Total	†31,921	4,046	5,751	19,145	1,871	37,800

OUTPUT (Cont.)—	Coke (tons)	Asphalt (tons)	Road oil	Still gas	Miscellaneous	Unfinished products	Shortage
East Coast	17,600	63,100	88	795	28	645	63
Appalachian	2,400	10,000	23	180	15	134	96
Ind., Ill., Ky., etc.	50,400	29,600	42	732	4	736	—11
Okla., Kans., Mo.	22,800	2,200	33	342	12	415	281
Texas Inland	4,000	.....	4	82	7	148	257
Texas Gulf	31,000	10,000	8	846	3	1,223	216
Louisiana Gulf	2,800	4,200	20	136	.....	98	66
Ark. and La. Indland	200	6,000	.....	43	1	261	42
Rocky Mountain	6,200	500	24	53	2	22	28
California	200	26,400	64	348	29	127	—8
Total	137,600	152,000	306	3,557	101	3,797	1,030

*Includes 108,000 bbls. run through pipe lines. †Includes 427,000 bbls. special naphthas.

RECEIPTS OF CRUDE ON THE ATLANTIC SEABOARD

Domestic:	Mar., 1933 (bbls.)	Foreign:	Mar., 1933 (bbls.)
Pennsylvania Grade	416,000	Venezuela	2,126,000
West Texas-S.E. New Mex.	2,549,000	Colombia	928,000
East Texas	4,316,000	Mexico	360,000
Other Mid-Continent	946,000	Other	203,000
Gulf Coast	2,939,000		
		Total	3,617,000
Total	11,166,000	Total receipts	14,783,000

Mid-Continent Refinery Operations for July

(Continued from Page 11)

REFINERY OPERATIONS IN EAST TEXAS
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Aver. daily runs: July	June
Alamo Refining Co., Camps Switch	2,500	2,425	2,400
Arp Refining Co., Arp	2,000	1,400	1,375
Arpana Refining Co., Arp	2,000	1,000	2,000
Arrow Refining & Producing Co., Overton	2,500	2,100	1,850
Beacon Oil & Refining Co., Henderson	4,500	3,350	3,000
Bluebird Refining Co., Kilgore	200	275	180
Canyon Refining Co., Kilgore	200	150	170
Carnation Refining Corp., Gladewater	200	320	240
Chief Refining Co., Gladewater	1,000	720	650
Cook (R. X.), Gladewater	200	100	80
Danciger Refineries, Inc., Longview	10,000	10,000	6,000
Dutch Rose Refining Co.	100	150	80
East Texas Refining Co., Longview	10,000	9,000	8,500
Foshee Refining Co., Gladewater	1,000	900	350
Gladetex Refining Co., Gladewater	500	250	150
Gilliland Refining Co., Gladewater	1,500	1,500	1,350
Gilmer Refining Co., Gilmer	500	130	(*)
Henderson Refining Co., Henderson	15,000	11,000	10,000
Hioctane Refining Co., Kilgore	500	225	(*)
Johnsonville Refining Co., Omega	200	(*)	100
Kilgore Refining Co., Kilgore	2,500	1,000	2,400
Lake Refining Co., Gladewater	1,000	650	230
Locke Refining Co., Gladewater	600	700	540
Modern Refining Corp., Gladewater	1,500	200	(*)
Oil Refineries, Inc., Overton	4,000	3,500	3,500
Overton Refining Co., Overton	3,500	3,500	2,600
Panama Refining Co., Kilgore	250	180	150
Pennant Refining Co., Kilgore	300	280	220
Recia Refining Co., Turnerstown	200	(*)	20
Reese Refining Co., Arp	200	(*)	(*)
Reinhart Refining Co., Gladewater	300	300	300
Rockett Refining Co., Kilgore	200	100	130
Rusk Gasoline Corp., Overton	200	100	(*)
Shoreline Refining Co., Kilgore	500	350	250
Sinclair Refining Co., Camps Switch	5,000	2,500	2,000
Smith & Maxey Refining Co., Kilgore	200	120	100
Solar Refining Co., Overton	3,000	(†)	(†)
Southern Oil Refining Co., Reeds Switch	2,500	2,000	2,000
Supreme Refining Co., Gladewater	300	125	(*)
Taylor Refining Co., Tyler	15,000	13,000	12,000
Texas Oil Products Co., Gladewater	2,000	2,000	1,750
Texas Refining Co., Kilgore	500	450	80
Trico Refining Co., Turnerstown	200	120	(*)
Trinity Refining Co., Gladewater	1,000	1,000	500
Tyler Refining Co., Longview	1,000	800	880
Union Refining Co., Camps Switch	3,000	2,900	2,000
Unit Refining Co., Kilgore	200	50	107
Upshur Refining Co., Gladewater	300	275	175
Total	103,750	80,295	70,417

*Shut down. †Cracking only.

REFINERY OPERATIONS IN NORTH LOUISIANA
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Aver. daily runs: July	June
Bayou State Refining Co., Hosston	750	(*)	(*)
Cedar Grove Refining Co., Shreveport	750	1,000	1,000
Louisiana Oil Refining Co., Shreveport, Bossier	19,000	17,350	17,350
Spartan Refining Co., Shreveport	10,000	5,000	5,000
Stanolind Oil & Gas Co., Superior	3,500	1,500	1,500
Texas Co., Shreveport	7,000	(*)	(*)
Shreveport Refining Co., Shreveport	200	200	200
Total	41,000	25,050	25,050

*Shut down.

(Continued on Next Page)

REFINERY OPERATIONS IN KANSAS
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Aver. daily runs July	Aver. daily runs June
Altitude Petroleum Corp., Chanute	5,000	(†)	(†)
Altitude Petroleum Corp., Kansas City, Mo.	3,000	600	600
Barnsdall Refineries, Inc., Wichita	4,000	2,000	1,900
Derby Oil Co., Wichita	7,500	5,000	4,500
Dickey Refining Co., McPherson	5,000	1,000	1,000
Eldorado Refining Co., Eldorado	4,500	3,000	3,000
Falcon Refining Co., Inc., Great Bend	1,000	600	500
Globe Refining Co., McPherson	10,000	10,000	7,000
Golden Rule Refining Co., Wichita	1,500	900	800
Kanotex Refining Co., Arkansas City	12,000	6,500	6,500
National Refining Co., Coffeyville	6,500	5,000	5,000
Phillips Petroleum Co., Kansas City	15,000	8,000	8,500
Shell Petroleum Corp., Arkansas City	22,000	12,000	10,000
Sinclair Refining Co., Coffeyville	12,000	10,000	9,500
Sinclair Refining Co., Argentine	9,500	5,000	5,000
Skelly Oil Co., Eldorado	22,000	15,000	14,000
Standard Oil Co. of Kansas, Neodesha	20,000	3,500	3,500
Sunflower Refining Co., Hutchinson	2,000	1,750	400
Vickers Petroleum Co., Potwin	3,500	3,000	2,500
White Eagle Oil Corp., Augusta	16,000	13,500	14,500
Total	175,000	107,450	98,700

*Shut down. †Cracking only.

REFINERY OPERATIONS IN WEST TEXAS
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Aver. daily runs July	Aver. daily runs June
Active Oil Corp., Arno	1,500	(*)	(*)
Aero Refining Co., Pecos Valley	225	10	10
Bluebonnett Oil Refining Co., Wickett	5,000	(*)	(*)
Bobrose Oil & Refineries, Luling	2,500	300	305
Coitex Refining Co., Colorado	10,000	6,500	6,200
Concho Refining Co., San Angelo	500	100	100
Coseden Oil Co., Big Spring	15,000	7,000	4,100
Pentex Refining Co., Echo	400	50	50
Grayburg Oil Co., San Antonio	6,000	(*)	(*)
Great West Refining Co., Big Spring	8,500	(*)	(*)
Gulf Refining Co., Sweetwater	5,000	4,000	5,000
Howard County Refining Co., Big Spring	1,500	1,000	400
Humble Oil & Refining Co., San Antonio	5,000	2,750	1,000
Humble Oil & Refining Co., McCamey	15,000	(*)	(*)
Magnolia Petroleum Co., Luling	7,000	4,000	3,500
McNutt Refining Co., El Paso	2,000	600	560
Marathon Oil Co., Del Rio	5,000	(*)	(*)
Moutray Refining Co., Hawley	600	250	300
Misko Refineries, Inc., Mirando City	2,500	1,300	1,500
Nolting Refining Co., Sweetwater	1,000	250	200
Octane Refining Co., Beard	2,000	1,300	760
Paramount Refining Co., San Angelo	2,000	230	700
Pasotex Petroleum Co., El Paso	14,000	2,600	3,000
Phoenix Refining Co., Pettus	800	400	400
Phoenix Refining Co., Laredo	600	300	300
Pioneer Oil & Refining Co., Somerset	1,500	900	900
Richardson Refining Co., Big Spring	6,000	(*)	(*)
Sinclair Refining Co., El Paso	2,500	600	600
Signal Gasoline Co., Texon	500	(*)	(*)
Texas Co., San Antonio	3,000	1,500	1,500
Texas Co., El Paso	2,000	700	1,400
Tonkawa Petroleum Co., Pyote	5,000	(*)	(*)
Texas Petroleum Products Co., Somerset	1,500	500	400
West Texas Refining Co., Pecos City	6,000	3,000	(*)
Wickett Petroleum Co., Wickett	2,500	425	1,000
Total	143,125	40,595	34,280

*Shut down.

REFINERY OPERATIONS IN NORTH CENTRAL TEXAS
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Aver. daily runs July	Aver. daily runs June
Abilene Refining Co., Abilene	500	(*)	(*)
Allstate Refining Co., Thrall	3,000	(*)	(*)
American Refining Properties, Wichita Falls	6,000	(*)	(*)
Archer Refining Co., Megargel	1,500	400	400
Atlantic, Pacific & Gulf Refining Co., Wichita Falls	5,000	(*)	(*)
Bobrose Oil & Refineries, Brownwood	2,000	(*)	(*)
Continental Oil Co., Wichita Falls	6,000	4,500	4,000
Dale Oil & Refining Co., Electra	4,000	(*)	(*)
Danciger Refineries, Inc., Pampa	6,500	5,000	4,500
Empire Oil & Refining Co., Gainesville	5,000	3,400	3,200
Exchange Petroleum Corp., Albany	500	250	300
Falls Refining Co., Wichita Falls	2,000	425	550
Gratex Refining Co., Graham	500	140	120
Gulf Refining Co., Fort Worth	10,000	5,000	6,000
Haskell Oil Refining Corp., Breckenridge	200	200	200
Humble Oil & Refining Co., Breckenridge	2,000	(*)	(*)
Humble Oil & Refining Co., Chilton	4,000	(*)	(*)
Humble Oil & Refining Co., Neches	5,000	2,500	900
Iowa Park Producing & Refining Co., Iowa Park	2,500	(*)	(*)
Jacksboro Refining Co., Jacksboro	400	100	100
Kent Refining Co., Minerva	2,000	250	250
Kent Refining Co., Angus	4,000	100	(*)
LaSalle Petroleum Co., Burkburnett	3,500	300	330
Macmillan Petroleum Co., Isom	3,000	(*)	(*)
Magnolia Petroleum Co., Fort Worth, No. 1	12,000	5,000	5,000
Magnolia Petroleum Co., Fort Worth, No. 2	6,000	(*)	(*)
Magnolia Petroleum Co., Corsicana	5,000	2,200	600
Marathon Oil Co., Fort Worth	5,000	4,000	4,000
Master Petroleum Co., Waco	1,000	600	300
Moon Refining Co., Graham	300	(*)	(*)
Muenster Refining Co., Muenster	300	30	30
Olney Oil & Refining Co., Olney	3,000	2,000	2,000
Oriental Oil Co., Dallas	5,000	1,500	1,200
Panhandle Refining Co., Wichita Falls	5,000	3,000	2,500
Panhandle Refining Co., Kings Mill	2,000	1,200	1,000
Paragon Refining Co., Leuders	300	300	300
Phillips Petroleum Co., Isom	30,000	20,000	18,000
Phoenix Refining Co., Inc., Dallas	3,000	500	500
Pilot Point Refining Co., Pilot Point	500	300	300
Primrose Refining Co., Wichita Falls	2,500	(*)	(*)
Shamrock Oil Co., Sunray	4,000	1,000	900
Sinclair Refining Co., Fort Worth	5,000	(*)	3,600
Simms Oil Co., West Dallas	4,500	(*)	(*)
Southtex Refining Co., Trent	500	250	250
Southland Refining Co., Olney	1,000	125	170
Star Refining & Producing Co., Fort Worth	1,500	700	600
Superior Refining Co., Tiffin	500	50	30
Taylor Refining Co., Taylor	6,000	800	800
Taxman Refining Co., Wichita Falls	3,000	2,500	(*)
Texas Co., Dallas	16,000	11,000	11,000
Texas Co., Amarillo	4,000	2,000	1,500
Texas Pacific Coal & Oil Co., Fort Worth	3,000	3,000	3,000
Texas Pacific Coal & Oil Co., Caddo	1,000	650	600
Tucker Refining Co., Wichita Falls	200	75	(*)
Waggoner Refining Co., Electra	6,000	2,400	3,000
Wichita Refining Co., Wichita Falls	150	60	20
Wilcox Oil & Gas Co. (Pampa Refining Co.), Pampa	4,000	(*)	(*)
White Star Refining Co., Cisco	500	150	130
Total	227,500	86,255	80,230

*Shut down.

REFINERY OPERATIONS IN ARKANSAS
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Aver. daily runs July	Aver. daily runs June
Berry Asphalt Co., Waterloo	2,000	800	800
Henry H. Cross Co., Smackover	6,000	3,000	3,500
Houston Oil Co., Camden	6,000	(*)	(*)
Lion Oil Refining Co., El Dorado	12,000	6,000	6,000
Macmillan Petroleum Products Co., Norphlet	2,000	1,600	1,700
Ouachita Valley Refining Co., El Dorado	2,000	1,500	1,300
Root Refining Co., El Dorado	10,000	4,500	4,350
Simms Oil Co., Smackover	3,000	2,500	2,500
Stephens Refining Co.	1,000	350	350
Total	44,000	20,250	20,400

*Shut down.

Amorphous Iron Oxide Is Well Suited for Conditioning Rotary Drilling Muds

By L. G. E. BIGNELL
Petroleum Engineering Editor

There are a number of admixtures used for conditioning rotary drilling muds, all of which have certain properties recognized by the drillers as necessary to prepare the mud to perform certain duties. Among these materials amorphous iron oxide has long been recognized as well suited for several purposes and it is offered to the industry by Geo. S. Mepham & Co., East St. Louis, Ill., under the trade name of "Colox," a word made by contracting the two words, colloidal and oxide.

The importance and value of this type of weighting and blending material have long been fully recognized by oil production engineers and drilling contractors. The manufacturers of Colox claim that muds made with it have greater buoyancy combined with higher fluidity. Twistoffs are lessened because drill strings are relieved of as much as 20 per cent of their total weight. Longer strings will thus deliver maximum power to the bit at the bottom of the hole.

Other advantages claimed for Colox are the reduction of power requirements because of the lubricating properties, reduction of wear from abrasion on drill pipe, casing, tools and pumps, load on derrick and hoist minimized, extra support given to the walls by the formation of a strong, thin, impervious filter cake, mud dilution and loss prevented, heaving formations strengthened and kept out of the hole, quick removal of drill cuttings from the face of the bit, preventing balling-up and quick release of cuttings in slush pit where velocity of current is reduced.

For this type of drilling mud admixture the principal ingredient is amorphous iron oxide. It is composed of approximately 85 per cent of this material which is ground finely enough so that only 3 per cent will remain on a 300-mesh screen. The largest particles in this finely ground material are 0.0016 inch in their greatest dimensions. The remainder grade down to submicroscopic sizes having colloidal properties.

Colox has a specific gravity of approximately 4.5 and is shipped in bags as a dry powder. It may be added to the mud stream in this form and jetted with a stream from the discharge side of the pump. Having approximately twice the weight of the average field clay muds it permits of a wide range of mud mixtures being made from it. Rotary muds weighing up to 150 pounds per cubic foot can be readily made with Colox and this extra weight has a decided advantage in controlling high underground pressures.

Natural Blending Qualities

The base of Colox permits greater facility in blending with available field clays because it occurs with them in its natural state. The other ingredients forming Colox are alumina, silicates and so forth, in from 13 to 18 per cent of the whole.

The structural similarities of Colox and clay give them physical properties that are in harmony. The particle structure being irregular and cellular permits its incorporation with clay to produce a drilling mud which meets the most exacting requirements. The colloidal fines provide a very large percentage of slimes of a type not subject to settling. An intimate and tenacious bond thus formed holds the particles to clay-like materials in a manner much as plaster seizes a rough wood lath.

This iron oxide product when blended with clays or used with water alone does not settle out quickly to the bottom of the hole. High and uniform buoyancy of each particle prevents classification or settling out. Under a high powered microscope individual particles of this material show a peculiar sponge-like texture and it is this unusual surface condition plus the high colloidal properties of the fines that cause quick jelling when agitation ceases and hold all particles in suspense. This results in a slow settling rate and instead of the mud forming a hard, rock-like layer it remains fluid and pumpable right down to the bottom. The slightest agitation will again return it to its original fluidity.

Manufacturing Process

Colox is not a chance product ground for making muds, but an oxide or iron especially prepared and carefully processed by the manufacturers who have had over 50 years' experience in preparing this particular material. It has uses other than for admixture to rotary mud and is prepared in a special plant and control is maintained over each step in the processing by engineers and chemists in a laboratory equipped with special apparatus for testing at all stages of the process.

Great care is taken in the final steps in manufacturing this material to produce a balanced particle size product; a gradation of particle size from the finest submicroscopic particle to the largest in such a manner that the various particle size fractions are in balance with each other. Extensive fractionation tests have shown Colox to be balanced in this respect.

In the manufacturing process the product is continuously sampled at various stages of the process and tested to determine conformity to standard. As each bag is filled, a sample is taken and incorporated into a composite sample representing a unit run. These composite samples are tested for standard quality and performance. Various factors of vital importance to the ultimate user are kept in control and absolute uniformity is assured. Selection of the raw materials is also very carefully supervised.

At a temperature of 2,000° F. the product is completely dehydrated and all volatile substances are driven off. This calcining process reduces the entire mass to a powder and renders it inert chemically and electrolytically. The heat-treating process is very prolonged at this high temperature which results in one of the most stable minerals known.

RUMANIAN COMPANY REVIVED

The old Rumanian oil company, Uniunea Petrolifera, will start operations again on oil lands in Bordeni, Bustenari, Glodini, Moreni and Baicoi. Em. Mardaresco will head the enterprise.

Hints of Practical Value

By L. G. E. BIGNELL
Petroleum Engineering Editor

Water Flooding

Where oil has been trapped in a producing formation either by uncontrolled water flooding or because the pore spaces in the sand have been sealed with foreign material it is often possible to reclaim part of this trapped oil later by some rejuvenation system. Gas or air may be forced into the formations to drive the oil to outlet wells, or water may be pumped into the sands to drive the oil ahead of it to the area of low pressure around the output wells.

If controlled water flooding is selected as the means of rejuvenation of the pool it is very essential that the water used for this purpose be free of any appreciable quantity of solids that might be precipitated in the pores in the formation and again seal them off.

Water flooding has been carried on extensively in Pennsylvania fields with good results. However, the application of this method of rejuvenation has developed several conditions that should be avoided if the best results are to be secured.

At each intake well it is usual practice to install at the surface of the casing an individual water meter, which should be boxed over and protected against freezing in cold weather. From this meter daily readings of water input can be secured and from such records it will be possible to note any variation in quantity of water entering the formations from day to day.

The bulk of the water used in flooding in Pennsylvania fields comes from a gravel bed close to the surface of the ground. The water is produced by air-lift or electric deep-well turbine pumps. In some parts of the field this water carries a small amount of iron which, when aerated, changes into the oxide and hydroxide form. When this type of water enters the producing formation a brown, flocculent sediment is precipitated which will plug the sands in time.

This iron oxide can be filtered out and it is desirable to do so when its amount is appreciable. However, there is another source of iron rust that will also give trouble unless eliminated and this rust comes from the inside of the pipes used in the surface water system.

To combat this rusting of surface pipes some companies use pipe lined on the inside with two coats of bitumastic enamel. Any good protective coating that can be applied to the interior of the pipe can be used, the object being to keep the water from coming in contact with the pipe and producing rust. Such protecting has been quite effective in eliminating this source of trouble.

Turbid water, or water carrying suspended material, should never be used in water flooding operations. Without good water this method of reclaiming trapped oil will present a number of difficulties, but based upon the past experience in Bradford and other fields, it is possible to anticipate those troubles and protect against them.

Consumption in Chicago Offsets Overproduction

(Continued from Page 35)

should offset a falling off in cleaners' business. On the face of it there is no reason why the special naphtha makers should not get a price that will allow them a profit.

Special naphtha prices Monday were a quarter of a cent lower as follows: Cleaners naphtha, 5¾ to 6 cents. lacquer diluent, 180-250, 7 to 7¼ cents (half-cent drop); lacquer diluent, 140-200, 8 to 8¼ cents (a quarter of a cent down from the high); rubber solvent, 5¾ to 6 cents; Stoddard solvent, 5¼ to 5½ cents; petroleum thinner, 5 to 5¼ cents (unchanged); V.M.&P. naphtha, 5½ to 5¾ cents; petroleum spirits, 4½ to 4¾ cents (unchanged).

Kerosene Demand Off Seasonably

While a majority of refiners are holding their kerosenes for better prices, others have cut their prices considerably without the desired result. One Chicago district marketer, who has a plant in North Texas, has been offering three cars of 41-43 water white material at prices ranging down as low as three-eighths of a cent under daily published prices, and was still in possession at last reports. A comparatively small quantity of kerosene is moving to buyers at this time, and while the statistical position of this product is favorable, there appears to be enough distress material to affect the open markets adversely. Prices Monday were off an eighth of a cent as follows: 41-43 water white, 2⅝ to 2¾ cents; 42-44 water white, 2¾ to 2⅞ cents.

Distillates and Fuel Oils

Distillate and fuel oil tank car markets alone appear to be holding steadily. Distributors say that there is a pronounced scarcity of 32-36 industrial gas oil, and zero fuel oils in the open markets. The larger refiners say that they are out of the spot markets on these materials and have only enough to meet their contract customers' requirements. In some parts of the territory, particularly in the St. Louis and Kansas City districts, the industrial gas oil is in good call and higher prices are being paid. The following nominal prices are quoted by two major refiners: 28-30 zero fuel oil, 80 cents; 26-28 zero fuel oil, 75 cents; 22-26 zero fuel oil, 65 cents; 18-22 zero fuel oil, 60 cents. Materials other than zero, however, are much lower. At the close of business last week some Texas sources were offering prime white 38-40 distillate at 2 cents for resale, and their kerosene three-eighths of a cent higher. Some 32-36 amber distillate of 200° F. flash was offered at the 2-cent price to the trade.

Refined Wax

The refined wax markets continue strong with export inquiries increasing and stocks showing further declines.

MID-CONTINENT A.S.M.E.

H. F. Brindel, of the Gypsy Oil Co., was re-elected chairman of the Mid-Continent section of the American Society of Mechanical Engineers for the year beginning July 1, at the annual meeting of the section.

Other executive officers elected to serve with Mr. Brindel are: C. K. Bullen, vice chairman, Stillwater; W. H. Stueve, Oklahoma vice chairman, Oklahoma Gas & Electric Co., Oklahoma City; J. M. McGregor, secretary, Macadam Engineering Co., Tulsa; H. W. Manley, treasurer, Barnsdall Oil Co.; R. H. Teed, Arkansas vice chairman, Hot Springs; F. Ray McGrew, Louisiana vice chairman, Shreveport; W. G. Heltzel, exofficio; Harold Adkinson, Mid-Continent petroleum division secretary.

BUREAU OF MINES TRANSFERRED

Secretary Ickes has announced that the Bureau of Mines is being transferred from the Department of Commerce to the Department of the Interior, which he heads.

Loss in Antiknock Rating With Acid Treatment

(Continued from Page 14)

tane numbers may be attributed to the solution and polymerization losses. The comparison of the distillation ranges is shown in Curve 8.

(c) Smackover, Arkansas, topped crude oil. The cracked gasoline was treated by agitating with 6 pounds of 93 per cent sulphuric acid per barrel, neutralizing with caustic soda, and rerunning with fire and steam at a maximum still temperature of 350° F. to remove 95.5 per cent overhead. The solution and polymerization losses were determined as 2.2 per cent and 1.8 per cent, respectively. The distillation characteristics of the product are comparable to the 97 per cent overhead distillate removed from the raw gasoline. There is a reduction of one octane number which may be attributed to the solution and polymerization losses. The comparison is shown in Curve 9.

Summary

The losses in octane number for each of the contributing factors may be tabulated as follows:

Conclusions

1. The reduction of octane number by laboratory acid treating and rerunning was 2.5, 4 and 1 octane numbers for cracked gasolines produced from Oklahoma City, Oklahoma, topped crude oil; Lucien district, Kansas, topped crude oil, and Smackover, Arkansas, topped crude oil, respectively, treating each with 6 pounds of 93 per cent sulphuric acid per barrel.

2. The loss of octane number due to acid solution and polymerization losses is dependent upon the nature and source of the cracked gasolines. The three gasolines studied showed a variation of 1 to 2.5 points drop in octane number.

3. During the rerun distillation in the laboratory, a loss of octane number results due to a loss of light hydrocarbons while an increase in octane number is usually obtained due to a loss of heavy hydrocarbons. The latter loss should not be encountered in the plant if good fractionation and sufficient rerun bottoms are present. The loss of light hydrocarbons in the plant should be considerably less than the corresponding laboratory loss.

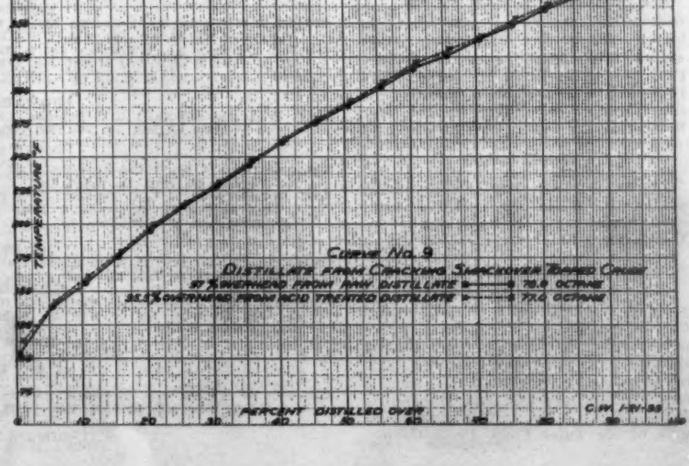
TABLE 3

Charging stock: / Sample:	Smackover, Arkansas, topped crude oil — Cracked endpoint gasoline			
Treatment:	Original untreated gasoline	Untreated gasoline	Untreated gasoline with 3.1% distillation loss	Six pounds, 93% sulphuric acid
Distillation:		Steam	Partial steam	Steam
Per cent overhead	...	97.0	...	95.5
Gravity, deg. A.P.I.	53.4	52.1	52.1	52.1
Octane No.	72.0	78.0	78.0	77.0
100 cc. A.S.T.M. Distillation				
I.B.P., ° F.	105	104	104	104
5 per cent	132	138	143	142
10	153	156	164	162
20	194	195	200	199
50	290	288	295	293
90	389	381	390	385
E.P., ° F.	412	409	415	416
Per cent over	96.0	98.5	97.0	98.0
Per cent bottoms	1.5	1.0	1.5	1.0
Per cent loss	2.5	0.5	1.5	1.0

TABLE 4

Charging stock: / Sample:	Oklahoma City, Oklahoma, topped crude oil	Lucien district, Kansas, topped crude oil	Smackover, Arkansas, topped crude oil
	Cracked endpoint gasoline		
Treatment—acid, lb./bbl.	6	6	6
Octane number:			
Raw gasoline	72.5	74.0	78.0
Finished gasoline	70.0	70.0	77.0
Total loss	2.5	4.0	1.0
Factors in octane number loss:			
Loss of light hydrocarbons	1.0	2.0	0.0
Loss of heavy hydrocarbons	*1.0	*0.5	0.0
Solution loss } Polymerization loss }	2.5	2.5	1.0
Total loss of octane numbers	2.5	4.0	1.0
Loss involved, per cent of raw gasoline:			
Loss of light hydrocarbons	3.5	4.0	2.1
Loss of heavy hydrocarbons	2.9	1.5	0.5
Solution loss	2.4	2.0	2.2
Polymerization loss	1.2	1.8	1.8
Total loss	10.0	9.3	7.6

*Gain.


CURVE NO. 9
DISTILLATE FROM CRACKING SMACKOVER TOPPED CRUDE
97% RECOVERED FROM RAW DISTILLATE ——— 78.0 OCTANE
95.5% OVERHEAD FROM ACID TREATED DISTILLATE ——— 77.0 OCTANE
TEMPERATURE °F.
PERCENT DISTILLED OVER

Ordovician Test Planned for Glasscock County; Shallow Development in Wichita Falls Area

By L. E. BREDBERG
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., July 10.—John I. Moore, consulting geologist and independent operator of San Angelo, has let contract to Loffland Brothers of Tulsa and Fort Worth for an Ordovician test to go to 7,500 feet unless oil in commercial quantities is found at a lesser depth. The test will be located on the L. S. McDowell ranch, in northwest central Glasscock County, several miles southwest of the Howard-Glasscock producing area. Location is to be Section 22, Block 34, Township 2s, T.&P. Survey.

Mr. Moore assembled a block of 6,000 acres in this area, dividing it into eight units of 750 acres each. He will retain one, Loffland Brothers will have one, Continental Oil Co. has taken one, and the remainder are to be sold to other companies. Operations are to begin within 60 or 90 days. Rotary equipment will be used in the drilling.

Broderick & Calvert of Fort Worth have completed a deal whereby they have taken over the block formerly assembled by O. G. Harper, and will drill a test in Section 25, Block 44, Township 2s, T.&P. Survey, on the Elliott Cowden ranch, Ector County, west of the Weekly Oil Corp.'s gasser and south of the Penn Oil Co. and Galt-Brown Oil Co.'s dry hole drilled three years ago. It is also southeast of one drilled last year by Broderick & Calvert. The test is approximately 5 miles west of the Addis Producing area in which there are four producing wells.

Waggoner-Western Corp.'s No. 1 Addis in Section 35, Block 43, Township 2s, T.&P. Survey, in the same section as the discovery well, is cleaning out following a shot during the week. It has been flowing around 75 bbls. per day. Fred Turner and others' No. 1-A Addis, in the same section, has also been flowing about this amount. It drilled to 4,116 feet.

A. W. Cherry and others' No. 1 Johnson in Section 41, Block 42, Township 1s, T.&P. Survey, between the Addis and Cowden producing areas, drilled to 4,416 feet after logging showings at 4,020-25 feet and 4,051-56 feet, and another at 4,315-21 feet. It looks like a dry hole at this writing.

Ward County

Humble Oil & Refining Co.'s No. 1 L. Richter and others, in Section 27, Block 34, H.&T.C. Survey, has extended production 1½ miles to the northwest in Ward County, and is approximately 4 miles southeast of the nearest production of the O'Brien Pool in the northern part of the county.

The well made 50 bbls. in 24 hours with 2,000,000 feet of gas, from pay topped at 2,465 feet. Total depth of the well is 2,560 feet. The nearest O'Brien Pool production is in Section 4, Block 16, Renaud and Prettyman drilled in this extension well several months ago. Gulf Production Co. has an east offset to it.

New Locations

Twelve locations were staked in the district during the week. Ward County had six, Howard, Irion, Loving, Pecos, Winkler and Ector Counties, one each.

McElroy Pool

Gulf Production Co.'s No. 103, test going to the Ordovician in the McElroy Pool on the Crane-Upton County line, is now below 4,440 feet in lime. Barring mishaps this test will be the next to be completed as an Ordovician test, whether as a producer or a dry hole. Humble Oil & Refining Co.'s No. 1 White and Baker, west of the Yates Field, Pecos County, is having difficulty, losing circulation at 2,500 feet.

Big Lake Field

Group No. 1 Oil Corp.'s No. 7-B University, apparently a dry hole in the deep pay horizon, Big Lake Field, Reagan County, showed but little oil at 8,900 feet and has cemented back to 7,976 feet.

Schleicher County

Eastland Oil Co. and others' No. 1 Joe Tisdale, unit test in Section 29, Block M, G.H.&S.A. Survey, Schleicher County, has drilled to 6,070 feet in brown lime. This lime is considered as the Bend.

WICHITA FALLS DISTRICT

Waggoner Refining Co., which made locations for its No. 1-E and No. 1 H, two 5,000-foot tests in the Waggoner pasture, Wilbarger County, some time ago, will now drill these locations. The latter location is 2½ miles west of the former, and both will be interesting because of the depth to be drilled.

There is a large amount of shallow development going on in Wichita, Young and Archer Counties, principally because the tests cost very little to drill, making it an ideal territory for the smaller operators.

Texas Co.'s No. 3 L. K. Johnson, western Foard County wildcat which logged gas showings, has at last picked up an oil showing at 3,560 feet and shut down to run and cement the 6-inch pipe. This is one of the most interesting wildcats in the district, and may prove an extension to the small Foard County Pool, discovered three years ago.

The Texas Co. is to do some reconditioning work on tanks on various farms in the Ranger and Wichita Falls districts, following a campaign to put a considerable number of men to work and putting its leases in order in different districts. Four 55,000-bbl. tanks will be reroofed at Ranger, one at Breckenridge and two 37,500-bbl. tanks at Electra will get new steel roofs.

Production in the district gained a daily average of 890 bbls. this week over the past week, production averaging 46,890 bbls.

COMPLETIONS IN WEST TEXAS

Crockett County

Stanolind Oil & Gas Co. and others' No. 3 Todd, dry and abandoned, total depth 1,528 feet.

Howard County

Merrick and Lamb's No. 7 Chalk, top pay 1,724 feet, initial production 314 bbls. of oil per day, total depth 1,835 feet. Sinclair Prairie Oil Co.'s No. 6 Dodge, top pay 2,685 feet, shot 300 quarts at 2,685-2,805 feet, initial production 75 bbls. of oil per day, total depth 2,805 feet.

Ward County

Gulf Production Co.'s No. 7 Hutchings, old well drilled deeper, increases from 2,670-73 feet and 2,748-52 feet, show of salt water from 2,678-84 feet, initial production 345 bbls. of oil per day, total depth 2,752 feet. Sinclair Prairie Oil Co.'s No. 1 Archenhold, old well drilled deeper, increase at 2,572-82 feet, initial production 100 bbls. per day flowing, total depth 2,589 feet. Thompson's No. 1 Johnson, top pay 2,447 feet, initial production 312 bbls. per day flowing, total depth 2,536 feet.

Irion County

Straugh-Texannati's No. 3 Nutt, dry and abandoned, total depth 1,540 feet.

Winkler County

Colonial Oil Co.'s No. 1 Scarborough, top pay 2,828 feet, initial production 280 bbls. of oil per day flowing, total depth 2,990 feet. Richardson and others' No. 2 Sealy, top pay 3,103-05 feet, total depth 3,192 feet, plugged back to 3,168 feet, initial production 150 bbls. of oil per day flowing through tubing, old well drilled deeper.

Wildcat Operations in West Texas

Week Ending July 10

CONCHO COUNTY

Company, well, farm name, section and block—	Remarks
Beasley et al's No. 1 Waring Estate, 400 ft. from N and E. Sec. 163, T.&N.O. Sur.	T.D. 2,586 ft.; pumping 5 bbls. oil per day and some water.

CRANE COUNTY

Loffland Bros.' No. 1 Tubbs, 1,334 ft. from N line and 1,320 ft. from W line of Sec. 9, Blk. B-27, P.S.L. Sur.	Running csg. 595 ft.

CULBERSON COUNTY

Miller Bros.' No. 1 fee, 1,980 ft. from N line and 660 ft. from E line of Sec. 61, Blk. 97, P.S.L. Sur.	Drlg. 1,062 ft.

ECTOR COUNTY

Cherry et al's No. 1 Johnson, 1,320 ft. from S line and 660 ft. from E line of Sec. 41, Blk. 42, Twp. 1s, T.&P. Sur.	Drlg. 4,416 ft.; oil show 4,020-25, 4,051-56 ft.
Landreth Prod. and The Texas Company's No. 1 Hott, 660 ft. from S line and 2,025 ft. from E line of Sec. 16, Blk. 43, Twp. 1n, T.&P. Sur.	Prepare to run tubing and test with acid; T.D. 4,450 ft.
Thomas et al's No. 1 Edwards, 330 ft. from S, 2,310 ft. from E. Sec. 38, Blk. 43, Twp. 3s, T.&P. Sur.	Set casing at 3,327 ft.
Fred Turner's No. 1-A Addis, 1,650 ft. from N line and 2,200 ft. from E line of Sec. 35, Blk. 45, Twp. 2s, T.&P. Sur.	Producing 75 bbls. of oil per day; T.D. 4,113 ft.

FISHER COUNTY

Cranfill & Reynolds' No. 2 George, 330 ft. from N and W lines of NE of Sec. 256, Blk. 1, B.B.B.&C. Sur.	Underreaming 2,950 ft.
Southern Oil Co.'s No. 1 Beavers, 330 ft. from W and 660 ft. from S of S half of SW Sec. 193, B.B.B.&C. Sur.	T.D. 2,103 ft.; swabbing 60 bbls. daily.

HOWARD COUNTY

M. D. Bryant et al's No. 1 L. C. Denman, 2,310 ft. from S and W lines of Sec. 16, Blk. 30, Twp. 1s, T.&P. Sur.	S.D. 2,863 ft.; pumped 30 bbls. oil in 24 hrs.
Eppenauer et al's No. 1 Leatherwood, C of SE of NW, Sec. 25, Blk. 33, Twp. 1n, T.&P. Sur.	Material on ground.
L. C. Harrison's No. 4 L. C. Denman, 2,370 ft. from the E line and 1,325 ft. from S line of Sec. 16, T.&P.R.R. Sur., Blk. 30, Twp. 1s	Cleaning out after being shot; T.D. 2,008 ft.

JONES COUNTY

Dyer's No. 1 Odom, 200 ft. from S and 170 ft. from W of N 320 acres, G. Zumwalt Sur.	Fishing 480 ft.

LOVING COUNTY

Eppenauer Drlg. Co.'s No. 1-A Victor, 330 ft. from SW and 338 ft. from SE of NW of N half Sec. 4, Blk. 3, W.&N.W. Sur.	Rigging up standard tools

PECOS COUNTY

A. & M. Pet. Co.'s No. 1 University, 1,725 ft. from S line and 330 ft. from E line of Sec. 31, Blk. 16, University Sur.	Reaming 1,574 ft.
Kimberlin et al's No. 1 B. D. Gregg, 2,488 ft. from NW and 150 ft. from NE, Sec. 101, Blk. 10, H.&G.N. Sur.	Cleaning out; 1,300 ft. of oil in hole; T.D. 1,432 ft.

(Continued on Page 47)

ROCKY MOUNTAIN AREA

Average daily production for the week ending July 8 follows:

	Bbls.
WYOMING	
Salt Creek	16,270
Big Muddy	1,850
Badger Basin	40
Byron-Garland	100
Byron-East	0
Dallas Derby	540
Dutton Creek	60
Elk Basin	560
Ferris	20
Frannie	220
Grass Creek	shut in
Greybull	0
Hamilton Dome	859
Hudson	370
LaBarge	1,180
Lance Creek	250
Lost Soldier	1,830
Mule Creek	shut in
Midway	70
Notches	shut in
Oregon Basin	280
Osage	620
Pilot Butte	30
Rex Lake	shut in
Rock River	1,150
South Casper	shut in
Poison Spider	260
Teapot	20
Warm Springs	0
Total	26,570
MONTANA	
Buckley-Border	270
Cat Creek	710
Cut Bank	1,100
Dry Creek	760
Kevin-Sunburst	3,430
Lake Basin	60
Pondera	1,290
Total	7,720
COLORADO	
Florence	310
Fort Collins and Wellington	610
Iles Dome	650
Moffatt	590
Orchard	150
Rangely	80
Tow Creek	170
Total	2,560
NEW MEXICO	
Artesia	530
Cooper area	70
Empire area	0
Eunice area	540
Getty Pool	0
Hobbs	30,150
Hogback	220
Hospah	shut in
Jal	1,540
Lea area	2,140
Jackson	670
Maljamar	220
Rattlesnake	640
Table Mesa	80
Total	36,810
Total all fields	73,660
Total last week	75,550
Difference	1,890

Texas Commission Asks President Roosevelt to Ban Interstate Transportation of Hot Oil

By L. E. BREDBERG

DALLAS, Tex., July 10.—The Texas Railroad Commission has sent President Roosevelt the following message: "In order that full co-operative effect can be given to oil control measures may we suggest that your enforcement of oil proration orders could be made more effective if you could at this time prohibit the shipment of illegally produced oil in interstate and foreign commerce. We have called a hearing for July 31 at Austin to ascertain the amount of oil that will be permitted to be stored in Texas, and will issue orders prohibiting storage in excess of that amount. Prevention of shipment of illegal oil and elimination of excess storage of crude will greatly assist in bringing all elements of the industry in accord. The situation in Texas is steadily improving. The Railroad Commission of Texas is now getting the unqualified support of the greater part of the industry."

Many cars of oil have been shipped out of the district without sanction of the commission, the majority being interstate or going to the coast for coastwise shipping, consequently the commission is powerless to do anything about such shipments, a Federal court injunction preventing it from interfering with railroad shipments or the spotting of cars at loading racks in the field for loading out.

If the President intervenes, much of the overproduction in the field may be halted immediately. This message virtually acknowledges that the commission is powerless to enforce proration, of which the violators are fully aware.

Major purchasers continue to solicit connections in East Texas, as do some of the smaller gathering systems in the field. The latter gain connections in many instances where previously majors had connections. Such changes are made by some producers in order to sell more than their wells' allowables, taking less for their oil per barrel, but getting more money per days' runs as they elect to disregard proration orders.

New Proration Suit

The Overton Refining Co. and 31 other complainants filed suit on July 10 in Federal Judge Randolph Bryant's court at Tyler attacking the present proration order of the Railroad Commission which sets a daily allowable of around 548,000 bbls. The plaintiffs allege that the commission arbitrarily reduced the allowable from more than 800,000 bbls. on June 14. This new bill is in the form of an amended petition to the suit originating in Fort Worth in May, at which time the commission's order was upheld. The Federal judges who have heard several such attacks on the commission's orders stated that they desired to see such an attack carried up to the Supreme Court to settle the problem once and for all. They also intimated that this order was about as good as any that might be written and that the commission was apparently doing its best.

Lease Play

In this column (June 29 issue) a stimulated lease play in the area at the junction of Anderson, Leon and Freestone Counties was mentioned, the Tide Water Oil Co. being named as one of the major purchasers in this area. This company, in conjunction with the Seaboard Oil Co., has had a 25,000-acre block assembled centering around the double bend of the Trinity River, in the Simon Sanches and John Adams Surveys. P. N. Wiggins and J. B. Daniels and others worked up the block. Two tests are to be drilled on the block within the next 90 days, one on the Long Lake plantation and the other on a location not yet announced.

Reports state that approximately $300,000 has been expended by the Tide Water Oil Co. and Seaboard Oil Co. for leases and royalties, as a result of extensive geophysical work in the area. Since the block has been assembled various other purchases have been made in the sector, Gulf Production Co., Standard Oil Co. of Kansas, Darby Petroleum Co. and others taking acreage near the block. Leases were said to have sold as high as $75 per acre and royalties going as high as $50 per acre.

Henderson County

McElreath & Suggett of Fort Worth are ready to spud in another test on fee land in the W. P. Wyche Survey, near Murchison in Henderson County. This test is 1½ miles southwest of Cranfill & Reynolds' No. 1 Starr dry hole, and 3 miles northeast of a dry hole they completed a short time ago. With the dry holes already drilled in this area the test will not be as interesting as those formerly put down.

Ed W. Bateman Drilling Co.'s No. 1 A. C. Carlisle, in the M. Elam Survey, Leon County, pulled in the crown block and is now shut down around 5,100 feet. No shows have yet been reported but the test has not yet reached a depth correlating with that in which showings were found in Shell Petroleum Corp. and others' No. 1 Phillips, in the Swayze Survey, to the east.

Shell Petroleum Corp. and others' No. 1 Beggs, the second test drilling on the unitized Centerville block in this county, is down 3,315 feet in shale.

Wiggins and others (Champlin-Bass, Inc.) drilling on the Scottish American acreage in the Nacogdoches University lands, Hopkins County, topped the Woodbine sand at 4,281 feet, encountering salt water. It is now coring ahead at 4,390 feet for the lower Woodbine sand.

Freestone County is to have another wildcat test. The New Deal Oil Co. has made location for its No. 1 O. Burleson in the Wiley Carter Survey, 3 miles southeast of Streetmand.

J. W. Rich and others have made location for their No. 1 R. W. Hazelwood in the Ewing Survey, 15 miles southwest of Nacogdoches in Nacogdoches County.

Everett Drilling Co. is building rig for its No. 1 L. Tunnell in the M. Moss Survey, Van Zandt County, 4 miles southwest of the Van Field.

E. E. Van Emon and others have a rig up on their No. 1 O. S. Maxton, located in the John Brown Survey, Franklin County.

Completions and Locations

There were 23 completions in the East Texas Field during the week and 27 locations staked. Four wildcats were reported, the largest number of new wildcat reports announced for some time, various areas getting attention as shown by the widely separated counties listed. The Nacatoch sand area, north of the Van Field, Van Zandt County, is now temporarily quiet, several dry holes detracting from the possibilities of the shallow sand horizon from which three small wells are now producing. Two more shallow tests have been contracted for by Jenkins Brothers of Dallas.

COMPLETIONS IN EAST TEXAS

North Gregg County

East Texas Refining Co.'s No. 5 B. Doby, top sand 3,703 feet, initial production 35 bbls. in one-half hour through open tubing, total depth 3,726 feet; No. 4 C. Fisher, top sand 3,495 feet, initial production 40 bbls. per hour through open tubing, total depth 3,514 feet. Gulf Production Co.'s No. 25 M. O. Sheppard, top sand 3,476 feet, initial production 73 bbls. per hour through open tubing, total depth 3,506 feet. Magnolia Petroleum Co.'s No. 9 O. F. Smith, top sand 3,616 feet, initial production 63 bbls. per hour through open tubing, total depth 3,641 feet. Nash and Windfohr's No. 4 C. Jones, top sand 3,589 feet, initial production 150 bbls. per hour through open tubing, total depth 3,641 feet. Towns and others' No. 1 Leak, top sand 3,662 feet, initial production 55 bbls. per hour through open tubing, total depth 3,680 feet.

South Gregg County

Commodore Oil Co.'s No. 1 W. Smith, top sand 3,595 feet, initial production 60 bbls. per hour through open tubing, total depth 3,610 feet. Gulf Production Co.'s No. 7 G. Davis, top sand 3,562 feet, initial production 85 bbls. per hour through open tubing, total depth 3,580 feet. Shell Petroleum Corp.'s No. 7 Bates, top sand 3,540 feet, initial production 11 bbls. in one-quarter hour through tapered tubing, total depth 3,608 feet; No. 4-B B. F. Laird, top sand 3,572 feet, initial production 15 bbls. in one-quarter hour through tapered tubing, total depth 3,597 feet. Sun Oil Co.'s No. 7 A. G. Morton, top sand 3,500 feet, initial production 80 bbls. per hour through open tubing, total depth 3,518 feet.

North Rusk County

Humble Oil & Refining Co.'s No. 7 J. J. Pitner, top sand 3,680 feet, initial production 75 bbls. per hour through three-quarters inch tubing choke, total depth 3,755 feet. Shell Petroleum Corp.'s No. 12 W. P. Moore, top sand 3,682 feet, initial production 28 bbls. in one-half hour through tapered tubing, total depth 3,705 feet.

South Rusk County

Cullen Oil Co.'s No. 2-B A. Thrash, top sand 3,678 feet, initial production 60 bbls. per hour through open tubing, total depth 3,724 feet. Gulf Production Co.'s No. 7-C Mayfield, top sand 3,667 feet, initial production 60 bbls. per hour through open tubing, total depth 3,677 feet. H. B. W. Oil Co.'s No. 2 Redwine, top sand 3,510 feet, initial production 25 bbls. per hour through open tubing, total depth 3,607 feet. Humble Oil & Refining Co.'s No. 10-B M. and R. Kangerga, top sand 3,617 feet, initial production 55 bbls. per hour through open tubing, total depth 3,643 feet; No. 2-B Mary Smith, top sand 3,599 feet, initial production 25 bbls. per hour through open tubing, total depth 3,670 feet. H. L. Hunt's No. 6-B S. Hale, top sand 3,595 feet, initial production 27 bbls. in three hours' pumping, total depth 3,724 feet. Killum & Gibbs' No. 1 Bradford, top sand 3,530 feet, swabbed but would not flow, temporarily abandoned, total depth 3,610 feet. Lion Oil & Refining Co.'s No. 10-B H. Brooks, top sand 3,655 feet, initial production 60 bbls. per hour through open tubing, total depth 3,740 feet. Mid-Kansas Oil & Gas Co.'s No. 15 S. H. Moores, top sand 3,696 feet, initial production 30 bbls. per hour through open tubing, total depth 3,732 feet. Smith & Sikes' No. 1 Frederick, top sand 3,610 feet, junked and abandoned, total depth 3,685 feet; I. G. Parker Survey.

WILDCAT COMPLETIONS

Ellis County

Armstrong's No. 1 Reeves, abandoned, total depth 100 feet, Larkin Newtson Survey. George Beasley's No. 1 Francis Borek, location abandoned.

Upshur County

Taubel & Lyons' No. 1 W. H. Duffy, top Pecan Gap 2,513 feet, base 2,975 feet, top Austin chalk 3,710 feet, base 3,739 feet, top sand 3,827 feet, base 3,875 feet, top Georgetown lime 3,931 feet, dry and abandoned, total depth 3,964 feet; T. Starr Survey. Wadley & Evans' No. 1 W. S. Jones, top Pecan Gap 2,333 feet, base 2,947 feet, top Austin chalk 3,631 feet, base 3,668 feet, top sand 3,671 feet, top cap rock 3,680 feet, top sand 3,682 feet, dry and abandoned, total depth 3,690 feet; James M. Dunn Survey. Wadley & Lyons' No. 3 Shuttlesworth, dry and abandoned, total depth 1,500 feet; elevation 298 feet; James M. Dunn Survey.

Van Zandt County

Isaac and others' No. 1 E. T. Rhodes, location abandoned.

East Central Texas Wildcats

Week Ending July 10

FRANKLIN COUNTY

Company, well, farm name, section and block—	Remarks:
Van Emon et al's No. 1 O. S. Maxton, 910 varas W and 910 varas S of NE cor. of survey, John Brown Sur.	Bldg. derrick.

FREESTONE COUNTY

Devonian Oil Co.'s No. 1 J. G. Beall, 330 ft. out of SE cor. of 220-ac. tract, 2 miles SW of Donie, Isaac Connelly Sur.	Drlg. 2,976 ft.

GREGG COUNTY

Cranfill & Reynolds' No. 4 Howard, 1,390 ft. from N line and 2,290 ft. from E line of survey, Mary Scott Sur.	Drlg. 400 ft.
East Texas Refining Co.'s No. 4 R. R. Collins, 2,880 ft. from N line and 4,310 ft. from W line of survey, D. Sanches Sur.	Rig up.
East Texas Refining Co.'s No. 5 R. R. Collins, 3,480 ft. from N line and 5,290 ft. from W line of survey, D. Sanches Sur.	Derrick.
East Texas Refining Co.'s No. 4 T. W. Tuttle, 5,060 ft. from N line and 6,900 ft. from W line of survey, W. H. Castleberry Sur.	Rig up.
East Texas Refining Co.'s No. 6 T. W. Tuttle, 5,050 ft. from N line and 6,900 ft. from W line of survey, W. H. Castleberry Sur.	Drlg. 672 ft.

(Continued on Next Page)

Bunker "C" and Diesel Oil Feature Market Advance

(Continued from Page 34)

pathy with the advanced quotations prevailing on bunker and Diesel oil at East Coast refineries. Refiners continue to post 4 cents per gallon for 28 gravity minimum oil in tank car lots, f.o.b. refineries, but it is reported that an advance to 4¼ cents will be made effective shortly. Considerable of the current gallonage on gas oil represents contract deliveries, and for this reason refiners would not receive the benefit of any general increase in prices until the expiration of present contracts, except in the case of their spot sales.

Furnace Oil

Retail marketers who have booked a considerable gallonage for the 1933-34 heating season on the basis of last season's prices, are covering their committments as rapidly as possible, and it is understood a number of cargoes have been booked at the Gulf during the past few weeks for fall movement to New York and other Atlantic Coast ports, with the probability a number of cargoes of California furnace oil will be moved Eastward later in the year.

Refinery quotations for domestic heating oils have not yet reflected the advances reported recently from other refining areas, but refiners are understood to be considering an advance of one-half to 1 cent on the entire range of furnace oils.

Paraffin Wax

No further price advances materialized on refined paraffin wax, either for domestic shipment or for export, but the market remained strong at recent advanced price levels, and early resumption of the upward price movement is predicted.

Lub Oil

Bright stocks and cylinder oils were well held at the increases put into effect at the close of the previous week, and refiners reported getting a fair gallonage at the new price level. While sellers still express bullish views on the market, it is believed here the advance has run its course unless eastern crude prices should show a substantial advance.

Pale and red engine oils were not changed in price, but buyers were in the market for stocks in substantial volume, anticipating a higher price level. In well-posted market circles it is reported fractional price increases will be put into effect on all grades this week, with the possibility advances may amount to as much as a full cent in one or two instances.

Geological Report on Cut Bank Field, Montana

(Continued from Page 15)

sand. Such a condition makes it impossible to infer a productive area from surface studies alone, and the development and extension of the field will necessarily proceed from subsurface information largely records of drilled wells. The present area of production is along the strike of strata, the same structural contour passing lengthwise through the field.

As stated, gas is in the same sand adjoining the oil field to the east for a distance of several miles, and the stopping of porosity to the eastward (up dip) is beyond the limits of the oil field. The gas is essentially methane, however, it contains some ethane and a plant has been erected at Cut Bank to extract naphtha compounds from the gas. Twenty-two gas wells averaging about 10,000,000 feet each per day with a pressure of slightly over 700 pounds per square inch now deliver gas to a 220-mile pipe line which supplies Helena, Anaconda, Butte and intermediate towns.

When oil was first encountered in the various wells, it quickly rose 2,000 feet from the bottom. In the Santa Rita well, oil gradually approached the surface and when after four days it was agitated by means of swabbing, 145 bbls. of oil flowed into the tank in a 12-hour period. Very little gas is with the oil. The fact that the oil rises in all wells during the first day to about the same level indicates that pressure is uniform throughout the field; and this in turn points toward a continuity in the sand. The occurrence of the oil in a true sandstone is favorable, and the rather compact character of the formation points toward a relatively long life of the wells. No water has as yet been encountered in the oil-bearing strata or beneath them. From the general character of the field, it is to be expected that water will be encountered westward down the dip, but development as yet has not proven this point, nor is the western limit of the field known.

Origin of Oil

The origin of oil and natural gas in general is believed to be organic matter in marine strata, either above or below the reservoir rock. In the base of the Cut Bank Field immediately below the oil reservoir occurs several hundred feet of dark marine strata Jurassic in age in which much organic matter is present. Although it is difficult or impossibe to prove this point, it may be that the Cut Bank oil has migrated upward into its present position from the shales a short distance below.

The future prospects of the field are bright, and it appears that Montana has added another oil field. Although no wells as yet have been "gushers," this may be due to a lack of gas intermixed with the oil. With a drilling depth of nearly 3,000 feet, an oil well should produce initially not less than 50 bbls. per day in order to pay for the investment in a reasonable length of time.

To drill and equip such a well for pumping in this district will cost not less than $25,000. However, wells which produce 100 bbls. per day initially should bring satisfactory returns. Present developments indicate that the Cut Bank Field will be profitable to those operators whose leases are not burdened with too many overriding royalties. While it is true that the field is not comparable to many of those of the Southwest, it will, nevertheless, be of distinct importance in the economic development of the State of Montana.

Kansas Merchandise Ban Upset by Supreme Court

TOPEKA, Kans., July 10.—The law enacted by the Kansas legislature in 1931 to prohibit public utilities from engaging in the sale of merchandise has been declared unconstitutional by the Kansas Supreme Court. It was held to be in violation of the Fourteenth Amendment to the Federal Constitution.

"Where a public utility corporation is authorized to do business in Kansas in the manufacture, purchase, supply and distribution of artificial and natural gas," the syllabus of the opinion said, "the sale of gas appliances by it, under the facts and circumstances set out in this opinion, is intimately connected with and incidental to the sale and distribution of gas, and is an implied power of such company because it directly and proximately tends to accomplish the general purpose for which the company was incorporated."

G. W. SCHEULTZ DIES

HOUSTON, Tex., July 10.—George W. Scheultz, independent oil man, Houston, Tex., died unexpectedly while in San Antonio on business July 6. Before engaging in business for himself, Mr. Scheultz was connected with the land department of the Texas Co. as East Texas representative.

JERSEY EMPLOYES STOCK

Standard Oil Co. (New Jersey) announced July 6 that employes may purchase the company's stock at $34 a share during the last half of the year under the company's stock subscription plan. The current market price of the stock is around $40 a share.

Gulf Coast Water Shipments During April, 1933

HOUSTON, Tex., July 10.—Reported shipments of crude and refined products out of Gulf Coast terminals during April totaled 19,955,207.77 bbls. It is estimated that more than 1,000,000 bbls. additional were lifted from terminals not reporting. Reported movements during the preceding month amounted to 20,576,399.48 bbls. Coke shipments during April totaled 11,096 long tons, of which 7,196 tons were coastwise. These were from Shell Petroleum Corp.'s Houston refinery.

There was a gain in coastwise movement of refined products as is customary at this time of the year in view of the seasonal increase in gasoline requirements on the Atlantic Seaboard. There also was a small gain in export liftings of crude but coastwise trade in crude and export shipments of refined products fell off. Shipments by companies and terminals follow:

GULF COAST WATER SHIPMENTS—APRIL, 1933

	Crude		Refined products		
Company, terminal—	Coastwise	Export	Coastwise	Export	Total
Atlantic P. L. Co.:					
Atreco	1,200,131.34	.....	.....	.....	1,200,131.34
Harbor Island	175,765.05	.....	.....	.....	175,765.05
Texas City	430,487.63	.....	4,874.57	.....	435,362.20
Gulf Refining Co.:					
Port Arthur	351,740.91	.....	2,015,924.66	270,814.12	2,638,479.69
Humble O. & R. Co.:					
Baytown	204,996.00	.....	1,349,855.05	505,374.47	2,060,225.52
Harbor Island	1,967,834.00	.....	.....	.....	1,967,834.00
Ingleside	99,785.00	.....	.....	.....	99,785.00
Texas City	471,851.00	.....	.....	.....	471,851.00
Magnolia Pet. Co.:					
Beaumont	†791,941.15	.....	†2,639,692.33	.....	3,431,633.48
Pure Oil Co.:					
Smiths Bluff	402,069.00	.....	476,857.00	.....	878,926.00
Shell Pet. Corp.:*					
Houston	301,401.67	79,414.04	556,787.93	79,872.37	1,017,476.01
Norco	.....	.....	494,348.93	.....	494,348.93
Standard Oil Co. (La.):					
Baton Rouge	370,786.00	64,580.00	1,049,817.00	340,155.00	1,825,338.00
Texas Co.:					
Port Arthur	656,712.00	297,636.00	2,018,144.00	375,599.00	3,258,051.00
Total April	7,425,501.25	351,630.04	10,606,301.52	1,571,724.96	19,955,207.77
Total March	8,974,969.58	216,372.55	9,573,690.90	1,811,366.45	20,576,399.48
Difference	1,549,468.33	135,307.49	1,032,610.62	239,641.49	621,191.71

*Coke shipments coastwise 7,196 long tons, export 3,900 tons.
†Includes export shipments.

East Central Texas Wildcats

(Continued from Preceding Page)

East Texas Refining Co.'s No. 2 D. G. Sparks, 75 ft. S and 200 ft. E of most northerly NW cor. of survey ..... Drlg. 1,320 ft.
East Texas Refining Co.'s No. 7 F. White, 330 ft. from N line and 660 ft. E of No. 6, H. Edwards Sur. .... Waiting on cmt. to set 3,590 ft.
F. H. E. Oil Co.'s No. 5 R. Christian, 4,900 ft. from N line and 3,590 ft. from E line of survey, G. W. Hooper Sur. ..... Derrick.
Gulf Production Co.'s No. 9 Lacy & Snider, 6,920 ft. from N line and 2,700 ft. from E line of survey, W. H. Castleberry Sur. ..... Running csg.; T.D. 3,480 ft.
Gulf Production Co.'s No. 3 S. Elder, 1,564 ft. from S line and 1,950 ft. from W line of survey, J. Wilkerson Sur. ..... Rig up.
Heyser & Heard's No. 2 Hindman-Guy, 5,160 ft. from S line and 2,000 ft. from W line of survey, G. W. Hooper Sur. ..... Derrick.
Kingwood Oil Co.'s No. 2 A. Godfrey, 6,550 ft. from N line and 2,610 ft. from W line of survey, M. V. Winkle Sur. ..... Rig up.
Rodger Lacy's No. 5 fee, 4,300 ft. from N line and 3,990 ft. from W line of survey, M. V. Winkle Sur. ..... Rig up.
Lee and Burnett's No. 1 Walker, 400 ft. from N line and 2,150 ft. from E line of survey, M. Dillard Sur. ..... Drlg. 765 ft.
Magnolia Petroleum Co.'s No. 4 Laird-Crim, 460 ft. from S line and 5,000 ft. from E line of survey, L. B. Outlaw Sur. ..... Waiting on cmt. to set 3,561 ft.
Magnolia Petroleum Co.'s No. 8 L. E. Orms, 6,440 ft. from N line and 4,910 ft. from W line of survey, W. H. Castleberry Sur. ..... Rig up.
Mansell and Reynolds' No. 1 Mrs. Compton, 30 ft. from S line and 150 ft. from W line of Blk. No. 30, H. R. Hokit Sur. ..... Waiting on cmt. to set; T.D. 3,605 ft.
W. H. Peckham's No. 1 J. W. Akin, 147 ft. S and 356 ft. E of SW cor. of Empire's Akin lease, W. H. Castleberry Sur. ..... Drlg. 3,302 ft.
Pilot Oil Co.'s No. 1 Hoyt, 483 ft. E and 265 ft. S of SW cor. of Stanolind's Akin lease, J. Mosley Sur. ..... Running csg.; T.D. 3,370 ft.
Pilot Oil Co.'s No. 1 Whatley, 1,250 ft. from S line and 160 ft. from W line of survey, William Robinson Sur. ..... Top Austin chalk 3,484 ft.; T.D. 3,586 ft.
Powell & Irion's No. 1 Godfrey, 900 ft. from N line and 2,350 ft. from E line of survey, M. Dillard Sur. ..... Rig up.
Rabbit Creek Oil Co.'s No. 2 Elder, 330 ft. from W line and 73 ft. from S line of survey, John Wilkerson Sur. ..... Waiting on cmt. to set 3,507 ft.
A. D. Robinson's No. 1 Hilburn Estate, 1,199 ft. from S line and 5,220 ft. from W line of survey, J. Wilkerson Sur. ..... Rig up.
Rosier and Pendleton's No. 7-A Nicholson, 2,050 ft. from N line and 330 ft. from E line of survey, M. Mann Sur. ..... Running csg.; T.D. 3,665 ft.
Rosier and Pendleton's No. 6-A Satterwhite, 1,720 ft. from N line and 2,650 ft. from W line of survey, D. Sanches Sur. ..... Rig up.
Sinclair Prairie Oil Co.'s No. 9 J. R. Williams, 4,000 ft. from N line and 1,300 ft. from W line of survey, J. Ruddle Sur. ..... Waiting on cmt. to set; T.D. 3,475 ft.
Sinclair Prairie Oil Co.'s No. 1-B A. A. King, 330 ft. from N line and 193 ft. from W line of lease, M. McCurry Sur. ..... Rig up.
A. L. Slaughter's No. 1 R. B. White, 430 ft. from N line and 30 ft. from E line of survey, C. H. Alexandria Sur. ..... Drlg. 2,859 ft.
Sun Oil Co.'s No. 7 A. G. Morton, 660 ft. N of No. 5 and 333 ft. from W line of lease, S. Baggett Sur. .. T.D. 3,674 ft.
Sun Oil Co.'s No. 8 A. G. Morton, 330 ft. from W line of lease and 660 ft. S of No. 3, S. Baggett Sur. .... Rig up.

Superior Oil Co.'s No. 4-B Pritchard, 3,050 ft. W and 500 ft. N of SW cor. of William Pasteur Sur. ..... Waiting on cmt. to set 3,500 ft.
Superior Oil Co.'s No. 14-A Pritchard, 3,150 ft. from S and 100 ft. E of most southerly SW cor. of G. R. Rains Sur., F. W. Johnson Sur. ..... Derrick.
Sutton & Hawkins' No. 6 Whittaker, 1,720 ft. from N line and 480 ft. from E line of survey, C. H. Alexandria Sur. ..... Drlg. 1,010 ft.
Wheelock and Collins' No. 1 Hilburn Estate, 191 ft. from N line and 5,620 ft. from W line of survey, John Wilkerson Sur. ..... Waiting on cmt. to set 3,498 ft.
Wise and Jackson's No. 5 Rosa Corbin, 5,860 ft. from S line and 2,250 ft. from E line of survey, H. Edwards Sur. ..... Drlg. 3,200 ft.
Yeager et al's No. 2 Howard, 90 ft. from N line and 2,350 ft. from E line of survey, Mary Scott Sur. ..... Rig up.

HENDERSON COUNTY

McElreath and Suggett et al's No. 1 Ferguson, 330 ft. out of most southerly NW cor. of 252.8-ac. tract, William P. Wyche Sur. ..... Derrick.

HOPKINS COUNTY

Culberson & Lynch's No. 1 Louis Stribling, 150 ft. from NW cor. of tract and lease, Thomas Norris Sur. Rig up.
Delworth-Hogan and Ashby's No. 1 Logan, 250 ft. from S and E lines of 175-ac. tract, A. L. Wetman Sur. .. Drlg. 2,260 ft.
Pete Wiggins et al's No. 1 fee, 400 ft. from S line and 667 ft. from W line of 48-ac. tract, Nacogdoches University Lands Sur. ..... Drlg. 4,140 ft.

HUNT COUNTY

Solar Exploration Co.'s No. 1 Smith, 210 ft. from E line and 270 ft. from S line of lease, William Glass Sur. ..... T.D. 1,500 ft.

KAUFMAN COUNTY

J. M. Scott et al's No. 2 Pannill, 2,550 ft. from NE line and 6,000 ft. S of Texas Midland Railroad, A. Cherino Sur. ..... Rig up.

LEON COUNTY

Bateman et al's No. 1 A. C. Carlyle, 150 ft. out of NE cor. of survey, Mary Elem Sur. ..... Top Austin chalk 4,792 ft.; drlg. 5,015 ft.
Shell Petroleum Corp.'s No. 1 Begga, center of 123.5-ac. tract, John Carter Sur. ..... Fishing for bit 3,150 ft.

LIMESTONE COUNTY

C. C. Curtis et al's No. 1 Emma Daniels, 150 ft. from W line and 150 ft. from S line of 42.5-ac. tract in Pedro Varela Sur. ..... Set surface csg. 60 ft.

RED RIVER COUNTY

Ajo Oil Co.'s No. 1 Nickels & Daniels, center of S 780 acres of 1,808-ac. tract, 8 miles N of English, Hugh B. Shaw Sur. ..... S. D. 2,159 ft.

RUSK COUNTY

Atlantic Oil Producing Co.'s No. 13 Brightwell, 153 ft. from W line and 520 ft. from N line of survey, R. W. Smith Sur. ..... Spudded.
J. Boren's No. 2 A. Holt, 1,500 ft. from N line and 1,320 ft. from W line of survey, D. Clark Sur. ..... Running csg.; T.D. 3,530 ft.
Combined Oil Co.'s No. 14 G. W. Eaton, 330 ft. from S line and midway between Nos. 6 and 9, F. Cordova Sur. ..... T.D. 3,070 ft.
Cordova Union Oil Co.'s No. 1-D C. O. Christian, 1,490 ft. from N line and 1,880 ft. from W line of survey, D. Clark Sur. ..... Waiting on cmt. to set; T.D. 3,740 ft.
Dyck Oil Co.'s No. 4 John Bell, 360 ft. from N line and 3,650 ft. from E line of survey, S. P. Hollingsworth Sur. ..... Derrick.
Griffin & Barnes' No. 1 fee, 13 ft. from S and W lines of 3-ac. tract, J. B. De Cadena Sur. ..... Waiting on cmt. to set.
Gulf Production Co.'s No. 8-C Mayfield Co., 3,110 ft. from W line and 3,520 ft. from N line of survey, J. B. De Cadena Sur. ..... Drlg. 1,943 ft.
Gulf Production Co.'s No. 3 C. F. O'Quinn, 764 ft. from S line and 2,920 ft. from E line of survey, George Berry Sur. ..... Rig up.
W. B. Hamilton's No. 6 L. B. Gambrell, 330 ft. from N and E lines of 54-ac. tract and survey, R. McAnnulty Sur. ..... Drlg. 1,115 ft.
Humble Oil & Refining Co.'s No. 11 C. J. Thompson, 2,950 ft. from N line and 6,580 ft. from E line of survey, M. J. Pru Sur. ..... Waiting on cmt. to set; T.D. 3,556 ft.
H. L. Hunt's No. 4-A Joe Lee, 480 ft. from S line and 900 ft. from E line of survey, J. Crouch Sur. ..... Drlg. 1,225 ft.
Jordan & Ramsey's No. 1 L. W. Prior, 330 ft. from N line and 667 ft. from E line of 53-ac. lease, Walker Pettit Sur. ..... T.D. 2,841 ft.
Lion Oil & Refining Co.'s No. 11-B H. Brooks, 4,960 ft. from S line and 1,410 ft. from E line of survey, M. J. Pru Sur. ..... Derrick.
Martin and Cockburn's No. 4 J. F. Cansler, 1,620 ft. from N line and 1,130 ft. from W line of survey, E. Collard Sur. ..... Rig up.
Charles McDonald et al's No. 2 Brightwell, 700 ft. from N line and 2,200 ft. from E line of survey, R. W. Smith Sur. ..... Rig up.
Mid-Kansas Oil & Gas Co.'s No. 1 Robert Van Zandt, 1,133 ft. S and 358 ft. E of SW cor. of Stanolind-Pure, Ras Lacy 100-ac. tract, J. H. Sparks Sur. .... Waiting for gauge; T.D. 3,616 ft.
Mid-Kansas Oil & Gas Co.'s No. 14 E. E. Moores, 140 ft. from S line and 3,260 ft. from E line of survey, M. J. Pru Sur. ..... Rig up.
Mid-Kansas Oil & Gas Co.'s No. 15 E. E. Moores, 3,720 ft. from E line and 660 ft. from N line of survey, J. B. De Cadena Sur. ..... Derrick.
Walker Murray et al's No. 1 W. H. Arnold, 330 ft. from S and W lines of 50-ac. tract, Levi N. Sparks Sur. ..... Waiting on cmt. to set; T.D. 3,722 ft.
Patterson Drlg. Co.'s No. 3 Brock Estate, 2,320 ft. from N line and 100 ft. from E line of survey, R. W. Smith Sur. ..... Derrick.
Rodgers & Rodgers' No. 2 A. J. and D. F. Deason, 2,209 ft. from S line and 2,340 ft. from E line of survey, M. J. Pru Sur. ..... Waiting on cmt. to set 102 ft.
Rodgers et al's No. 1 D. Bradford, 3,490 ft. from S line and 5,410 ft. from W line of survey, Juan Ximenes Sur. ..... Swabbing; T.D. 3,580 ft.
Standard of Kansas' No. 3 C. F. O'Quinn, 250 ft. from S line and 2,750 ft. from W line of survey, George Berry Sur. ..... Waiting on cmt. to set; T.D. 3,776 ft.
Standard of Kansas' No. 5 M. L. Thompson, 330 ft. from E line and 3,310 ft. from N line of survey, I. Moore Sur. ..... Drlg. 1,525 ft.
Sun Oil Co.'s No. 11 J. R. Beall, 6,220 ft. from E line and 4,400 ft. from W line of survey, W. P. Chisum Sur. ..... Derrick.
Tide Water Oil Co.'s No. 7-A Mrs. W. B. Thompson, 330 ft. from W line of lease and E offset to Betty K.'s No. 1 Maxwell, John Darley Sur. ..... Waiting on cmt. to set; T.D. 3,640 ft.
Turman Oil Co.'s No. 7 A. D. and V. F. Deason, 2,330 ft. from S line and 2,250 ft. from E line of survey, M. J. Pru Sur. ..... Waiting on cmt. to set 3,682 ft.
Weaver-Crim Corp.'s No. 3-B Bean, 322 ft. from S line and 1,270 ft. from W line of survey, Mary Cogswell Sur. ..... Derrick.
Womack Oil Corp.'s No. 2 W. H. Arnold, 330 ft. from S and W lines of 112-ac. tract and survey, William Christian Sur. ..... Drlg. 1,950 ft.

SMITH COUNTY

Barney Carter's No. 2 T. O. Wright, 1,260 ft. from N line and 1,200 ft. from E line of survey, Juan Vargas Sur. ..... Drlg. 2,795 ft.
H. L. Hunt's No. 10-A Fair, 2,360 ft. from S line and 1,590 ft. from E line of survey, R. McAnulty Sur. .. Waiting on cmt. to set 3,627 ft.
H. L. Hunt's No. 11-A R. W. Fair, 1,130 ft. from S line and 330 ft. from W line of survey, R. McAnulty Sur. ..... Rig up.
Long Drilling Co.'s No. 2 G. A. Turner, D. W. Campbell Sur. ..... Derrick.
Alex McCutchin's No. 3 Hathaway, 330 ft. from N line and 1,320 ft. from W line of survey, D. Shaw Sur.... Swabbing; T.D. 3,801 ft.
Alex McCutcheon's No. 4 Stone, 990 ft. from N line and 960 ft. from W line of survey, D. Shaw Sur. .... Derrick.
Pine Grove Oil Co.'s No. 4 S. S. Cooke, 2,730 ft. from N line and 7,440 ft. from E line of survey, Juan Vargus Sur. ..... Prepare to run csg.; T.D. 3,718 ft. 718 ft.
Standard of Kansas' No. 6 M. L. Thompson, 2,300 ft. from N line and 1,190 ft. from E line of survey, I. Moore Sur. ..... Top Austin chalk 3,462 ft.; T.D. 3,474 ft.
Texarana Oil Co.'s No. 2 S. S. Cook, 3,980 ft. from N line and 7,580 ft. from E line of survey, J. Vargus Sur. ..... S.D. 102 ft.

UPSHUR COUNTY

Conservative Oil Co.'s No. 6 C. M. and V. Victory, 2,410 ft. from E line and 330 ft. from S line of survey, E. A. J. Evans Sur. ..... Drlg. 2,502 ft.
W. V. Greer's No. 1 A. B. Mackey, 2,400 ft. from N line and 4,080 ft. from E line of survey, H. Pineda Sur. ..... Rig up.
Humble Oil & Refining Co.'s No. 21 J. D. Smith, 1,750 ft. from E line and 330 ft. from S line of survey, E. A. J. Evans Sur. ..... Waiting on cmt. to set; T.D. 3,602 ft.
Mudge Oil Co.'s No. 2-B S. E. Richardson, 1,780 ft. from N line and 2,140 ft. from E line of survey, D. Ferguson Sur. ..... Waiting on cmt. to set; T.D. 3,699 ft.
Peckham and Meadows' No. 1 L. P. League, 1,200 ft. from N line and 330 ft. from W line of survey, H. F. Rodgers Sur. ..... Rig up.
Perrin and Feil's No. 6 C. C. Landers, 370 ft. from N line and 2,700 ft. from W line of survey, G. W. Hooper Sur. ..... Failed to flow; T.D. 3,758 ft.
Sun Oil Co.'s No. 3 B. L. Loden, 5,360 ft. from N line and 1,050 ft. from W line of survey, G. W. Hooper Sur. ..... Set surface csg.
Twin Oil Co.'s No. 8 Bonner, 1,089 ft. from S line and 1,020 ft. from W line of survey, J. McRae Sur. ..... Rig up.

VAN ZANDT COUNTY

Everett Drilling Co.'s No. 1 L. Tunnell, 150 ft. out of SW cor. of 72.4-ac. tract, 4 miles SW of Van, M. Moss Sur. ..... Bldg. derrick.
Gulf Oil Co.'s No. 1 Gillentine, 150 ft. from S and E lines of E 4 acres of 42-ac. tract in Nacogdoches County School Land Sur. ..... Drlg. 1,346 ft.
Petroleum Pipe Line Co.'s No. 3 Mrs. S. McGee, 650 ft. from S line and 150 ft. from W line of Blk. No. 17, William Daniels Sur. ..... Waiting on cmt. to set 1,170 ft.
Pure Oil Co.'s No. 4 J. M. Martin, 525 ft. W of E line and 200 ft. N of S line of J. M. Martin Sur., J. Stephenson Sur. ..... Derrick.
Ray Drilling Co.'s No. 1 J. W. Mallory, 1,150 ft. from S line and 150 ft. from W line of 217-ac. tract, John Walling Sur. ..... Derrick.
Reasonover et al's No. 1 D. T. Cole, 150 ft. from S and E lines of 45-ac. tract, Nacogdoches County School Land Sur. ..... S.D. 1,175 ft.
Van Oil Association's No. 1 Tankersley, 200 ft. from S and 1,000 ft. from S of farm, L. Landers Sur. ..... Drlg. 1,202 ft.

Wildcat Operations in West Texas

(Continued from Page 44)

REAGAN COUNTY

Big Lake Oil Co.'s No. 8-C University, 710 ft. from S and 2,410 ft. from E, Sec. 12, Blk. 2 ..... Flowed 2,072 bbls.; T.D. 8,800 ft.
Big Lake Oil Co.'s No. 9-C University, 2,410 ft. from N and 765 ft. from E, Sec. 12, Blk. 2 ..... Flowed 2,074 bbls.; T.D. 8,647 ft.
Big Lake Oil Co.'s No. 10-C University, 2,025 ft. from S and 375 ft. from W, Sec. 25, Blk. 9 ..... Flowed 3,640 bbls. of oil; T.D. 8,550 ft.
Big Lake Oil Co.'s No. 11-C University, 2,300 ft. from S line and 2,140 ft. from E line, Sec. 13, Blk. 3, University Sur. ..... Drlg. 7,671 ft.
Continental Oil Co.'s No. 7-B University, 1,900 ft. from N and 650 ft. from W, Sec. 36, Blk. 9 ..... T.D. 8,900 ft.; plugged back to 7,976 ft.
Continental Oil Co.'s No. 8-B University, 1,300 ft. from S and 1,775 ft. from W, Sec. 36, Blk. 9 ..... Flowed 1,003 bbls. of oil; T.D. 8,695 ft.
J. P. Williams et al's No. 1 Scott, 1,650 ft. from N and 330 ft. from W, Sec. 178, Blk. 1, T.&P. Sur. ..... S.D. 2,210 ft.

RUNNELS COUNTY

Dutton et al's No. 1 Dean, 5,475 ft. from NE and 1,045 ft. from NW in J. Heil Sur. No. 519 ..... S.O. 3,417-20 ft.; S.D. 3,600 ft.

SCHLEICHER COUNTY

Eastland Oil Co.'s No. 1 Joe Tisdale, Sec. 79, Blk. M, G.H.&S.A. Sur. ..... Drlg. 6,019 ft., ½ bailer of salt water per hr. at 6,015 ft.
Wesner et al's No. 1 Nicks, 2,310 ft. from N and 2,302 ft. from E of Sec. 77, Blk. LL, T.C. Sur. ..... T.D. 6,630 ft.; plugged with bailer in hole.

UPTON COUNTY

Gulf Prod. Co.'s No. 103 McElroy, 1,980 ft. from S and 660 ft. from W, Sec. 197, Blk. F, C.C.S.D.&R.G.N.G.... Drlg. 4,418 ft.

WARD COUNTY

George Bentley et al's No. 1 C. Bergman, 340 ft. from NE line and 2,310 ft. from NW lines of Sec. 26, Blk. 5, H.&T.C. Sur. ..... Fishing for tools; T.D. 2,647 ft.
George Bentley et al's No. 1 A. Emory, 1,320 ft. from NE line and 2,310 ft. from NW line of Sec. 24, Blk. 5, H.&T.C. Sur. ..... T.D. 2,301 ft.
W. A. Black et al's No. 1 Ann B. Gordon, 990 ft. from NW and 330 ft. from NE lines of Sec. 6, Blk. 34, H.&T.C. Sur. ..... Fishing; T.D. 2,470 ft.
Eppenauer Drlg. Co.'s No. 1 University, 330 ft. from N and 440 ft. from E of S half of Blk. 16 ..... Running csg. 453 ft.
Gulf Prod. Co.'s No. 16 Hutchings, 1,982 ft. from S and 1,650 ft. from W, Sec. 5, Blk. F ..... Swabbing and cleaning out; T.D. 2,754 ft.
Gulf Prod. Co.'s No. 30 O'Brien, 990 ft. from S line and 660 ft. from W line of Sec. 6, Blk. F, G.&M.M.B.&A. Sur. ..... Bailing and cleaning out; T.D. 2,850 ft.; plugged back to 2,658 ft.

WINKLER COUNTY

Colonial Oil Co.'s No. 2 State Scarborough, 990 ft. from W and 102½ ft. N of the NE cor. of Sec. 1, School Blk. 77, located in Sec. 1, Blk. W.F. ..... Rig up.
Sid Richardson's No. 3 John Seally, 2,310 ft. from the N line and 330 ft. from the W line of Sec. 94, G.&M.M.B.&A. Sur. ..... Derrick.

Test in Logan County, Oklahoma, May Result in New Pool in That Area of Deep Pay Sands

By W. A. SPINNEY
Staff Correspondent, Oklahoma Fields

The discovery of a new oil field in Logan County, Oklahoma, is indicated.

The Gypsy Oil Co. and Carter Oil Co.'s No. 1 Miller, C NE SE Section 28-17-4w, near Crescent, found a rich saturation of oil and gas in the Wilcox sand at 6,120-41 feet, and is landing and cementing the 7-inch casing at 6,070 feet, prior to testing the oil showing. The top of the Wilcox sand was believed to be at 6,120 feet with the best saturation at 6,131-41 feet. This test also found about 2,000,000 feet of gas in the Layton sand at 4,844-94 feet, which was mudded off and the hole drilled deeper.

Logan County's other interesting wildcat test, the Shell Petroleum Corp. and others' No. 1 Faulkner, C SE NW Section 11-15-4w, was shut down at 6,672 feet for a water supply.

Amerada Petroleum Corp. and others' No. 1 Mitchell, SE cor. NE SW Section 15-18-3, Payne County wildcat, was reaming the casing to the top of Siliceous lime at 4,560-65 feet. It was swabbed down and made oil and water. The oil recovery was estimated at 1½ bbls. per hour. The water was found up the hole and it is believed that lowering the casing will shut off this water, as no water was showing in the lime.

Production Figures

The daily average production of the principal pools in the State for the week ending July 8 was as follows:

Pool—	Week ending July 8	Previous week
Bowlegs	12,105	9,065
Bristow-Slick	11,200	11,420
Burbank	10,175	10,250
Carr City	9,100	6,450
Earlsboro	10,900	9,545
East Earlsboro	18,235	16,310
South Earlsboro	1,375	1,275
Little River	16,530	15,580
East Little River	1,905	1,960
Oklahoma City	253,980	302,005
Seminole City	10,995	11,225
Tatums	10,500	8,500
Total	366,350	402,685
Others	207,255	210,715
Total State	573,605	613,400

A Unit Operation in Noble County

An interesting wildcat test was announced during the week in the Morrison area of southern Noble County, where N. B. Feagin, Roy Nash, Ted Hamilton and others have made a location for No. 1 Eyler, C SE SW Section 10-21-2. This test is located on a unitized block of acreage that has been core drilled and a seismograph survey made of the area. A number of companies have tested the area and as the result all of the acreage on the supposed structure has been leased.

The companies interested in the block include Sinclair Prairie Oil Co., Gypsy Oil Co., Phillips Petroleum Co., Amerada Petroleum Corp., Stanolind Oil & Gas Co., Slick-Urschel, Inc., L. H. Wentz, N. B. Feagin, Roy Nash and Ted Hamilton.

The unit agreement with all the leaseowners states that drilling shall be restricted to one well on each 40 acres should a new oil producing pool be opened.

The drilling of the well has been let to Helmerich & Payne Drilling Co. and rotary tools will be used to the Oswego lime, and from that formation standard tools will be used to the Wilcox sand. The Hoover series is expected to be found around 2,700 feet and will be cored. In the event a commercial well is found in any of the shallow sands the well will be produced and a twin well drilled to the Wilcox sand.

A number of years ago the Phillips Petroleum Co. drilled a well in NW cor. Section 4-21-2, that found a showing of oil in the Hoover series, the Oswego lime and in the Wilcox sand.

Scattered Potentials

The potential tests of the wells in the Roxana Pool, in Logan County, that are producing from the School Land sand show a total of 621 bbls. for 12 hours. The potential of each well is as follows:

Company and well—	Bbls.
Shell's No. 6 McCully, NE SW SE Sec. 30-19-4w	140
Shell's No. 1 Story, SE cor. SW Sec. 30-19-4w	220
J. S. Cosden's No. 1 Gardner, NE NW Sec. 31-19-4w	206
Wentz' No. 2 Williams, NW NE Sec. 31-19-4w	55
Total	621

The estimated potential of these four wells was 5,600 bbls. a day while the actual potential of the wells in 24 hours is 1,242 bbls. The Shell Petroleum Corp. petitioned the Corporation Commission to take 3,000 bbls. a day from this area. There are a number of Wilcox sand producers in the field.

The Carter Oil Co. took potentials on its two wells in the Keokuk Falls area of Seminole County. The No. 1 Keokuk Falls Community made 2,221 bbls. in 24 hours and No. 1 Canard, the north offset, made 1,422 bbls. of oil and 502 bbls. of water. The crew was still trying to shut off the bottom hole water. The total potential of these wells is 3,643 bbls. a day.

In the Sasakwa townsite area in Seminole County, the Stanolind Oil & Gas Co.'s No. 1 Palmer, NW cor., Section 36-6-7, shows a potential of 5,414 bbls. in 48 hours. This well will have a 24-hour potential of 2,707 bbls. The three offsets to this well are expected to be drilled in the near future.

New Pool in Carter County

Southern Oklahoma was featured by the discovery of another pool, about 2 miles northwest of the Tatums Pool, in Carter County. The well, a semiwildcat test, Carter Oil Co.'s No. 1 Perkins, SE cor. NW SW, Section 3-1s-3w, found a saturated sand from 2,740-2,845 feet. Casing was landed and cemented on top of the sand and the cement plugs drilled during the week, and it swabbed 236 bbls. of oil the first 10 hours. This wildcat test is located about a mile east of where E. M. Boring and others recently completed another wildcat well, No. 1 Riddle, for 8,500,000 feet of gas a day at 2,039 feet.

In the Tatums Field, Carter County, Frank Gouin and others' No. 4 Burton, SW cor. NW, Section 30-1s-2w, in the southeast extension of the field, was estimated at 175 bbls. of oil and 4,000,000 feet of gas per day from a sand series at 2,279-2,441 feet. The sand was given a treatment with acid.

The Lloyd Oil Co.'s No. 2 Majors, NE cor. SW SE, Section 25-1s-3w, was drilling at 2,446 feet and it was believed that the test has missed the pay.

Clemscott Oil Co.'s No. 1 Carter, SW cor. NW NW, Section 13-1s-3w, north of production in the Tatums Field, was drilling at 2,705 feet in shale with nothing showing.

Most of the operations in Stephens County are shut down waiting for drilling water. G. L. Pace's No. 3 Gilsworth, SE cor. NW NW, Section 2-2s-8w, reached a depth of 1,929 feet with salt water in the bottom of the hole.

In an attempt to extend production in the Walters Pool in Cotton County Donald Brothers' No. 2 Hunter, NW cor., Section 6-2-9w, was drilling at 1,200 feet.

In Atoka County, Dave Malernee has contracted for two 1,600-foot tests to be drilled in the eastern part of the county. They are No. 1 Greenville State Bank, NW cor. SE, Section 36-2s-13, and No. 1 Cole, NE cor. NW, Section 19-2s-14.

In the Oklahoma City Field Denver Producing & Refining Co. has made two locations on the Frisco freight house property, in the newly extended U-7 zone in the northwest part of the Oklahoma City Field. No. 1 Frisco Freight House is located in approximately SE cor. SW

Wildcat Operations in Oklahoma

Northern Oklahoma

ALFALFA COUNTY

Company, farm and location— Remarks:
Acre et al's No. 1 Acre, C SW NE Sec. 14-24-11w.....O.W.D.D.; drlg. 5,580 ft.

BECKHAM COUNTY

Pattee Royalty Co.'s No. 1 Goose Tree, SW SE SW SE Sec. 33-10-23w .....Drlg. 3,004 ft.

CADDO COUNTY

Denver P. & R. Co.'s No. 1 Noe, NW SW SW Sec. 34-10-10w .....Drlg. 9,450 ft.
W. L. Miller's No. 1 Gardner, SE SW Sec. 26-6-10w....Rig.

COAL COUNTY

Dod'd & Burton's No. 1 Grigsby, NW SE NE Sec. 35-1-8..Drlg. 1,878 ft.
Funk & Russell's No. 1 Miller, SE NE Sec. 10-2-8 .....Fishing 2,750 ft.

GARFIELD COUNTY

Continental Oil Co.'s No. 1 Thompson, NW SW SW Sec. 7-24-4w .....Drlg. 6,338 ft.
J. H. Lewis' No. 1 Clark, C NW NW Sec. 34-21-5w .....Rig.

HUGHES COUNTY

Dixie-Lee Oil Co.'s No. 1 Taylor, C NW Sec. 27-5-10.....Drlg. 350 ft.
Gilcrease Oil Co.'s No. 1 Thompson, NW SE Sec. 34-7-8..Drlg. 1,150 ft.
Pioneer Pet. Co.'s No. 1 Brock, SE cor. Sec. 26-8-11 .....Rig.
Redwine et al's No. 1 Badger, C N half SW SW Sec. 4-5-11 .....Drlg. 330 ft.

KAY COUNTY

Blauner et al's No. 1 Maple, NE NW SE Sec. 20-27-4....Drlg. 660 ft.

KIOWA COUNTY

Christian's No. 1 Jones, NE NW Sec. 8-7-18w .....Drlg. 1,778 ft.
King & Moore's No. 1 King, SE SW NW SW Sec. 27-7-20w .....Drlg. 950 ft.
McWhirter et al's No. 1 Vanderneck, NE NW Sec. 3-7-19w (O.W.D.D.) .....Drlg. 2,155 ft.

LINCOLN COUNTY

Magnolia Pet. Co.'s No. 1 Wagoner, SW SE Sec. 2-14-3 ..Drlg. 2,380 ft.

LOGAN COUNTY

Gypsy Oil Co.'s No. 1 McConnell, C NE SE Sec. 28-17-4w..Drlg. 6,141 ft.
Shell Pet. Corp.'s No. 1 Faulkner, C SE NW Sec. 11-15-4w..Drlg. 6,672 ft.

MURRAY COUNTY

A. E. Harden's No. 1 Sadler, NE Sec. 19-1-2.....Rig.

MUSKOGEE COUNTY

J. S. Routt et al's No. 1 Escoe, CWL SE NE Sec. 17-13-17..Drlg. 600 ft.

NOBLE COUNTY

Sinclair Prairie's No. 1 Jerome, SW cor. Sec. 15-20-2w..T.D. 5,337 ft; P.B. to 4,955-70 ft. to test.

OKLAHOMA COUNTY

Mid-Continental Oil Co.'s No. 1 Edwards, C SE SE Sec. 19-11-1 .....W.O.C.S. 260 ft.
F. Russell's No. 1 Heapley, SW NW NE Sec. 23-12-3w..Drlg. 600 ft.

PAYNE COUNTY

Kemp & Nunnelee's No. 1 Crane, SW SE SW Sec. 10-17-6 Drlg. 1,235 ft.
O. N. Maines et al's No. 1 Scheidberg, NW SW NW Sec. 27-22-6 .....Wilcox sand 3,114-38 ft.; wtr.

PITTSBURG COUNTY

Moffett & Hall's No. 1 Jones, C NE NW Sec. 14-8-14 ..Drlg. 2,650 ft.

PONTOTOC COUNTY

Gilbert's No. 1 Starritt, NW SE Sec. 28-4-6.....Drlg. 1,200 ft.
Choctaw O. & G. Co.'s No. 1 Thompson, SW NE SW Sec. 1-1-7 .....Showing gas 1,215-18 ft.
W. E. McGraw's No. 1 Mayhue, NE Sec. 19-3-6.....Drlg. 1,150 ft.
Williams' No. 1 Kroth, NE SE Sec. 33-3-4.....Drlg. 1,977 ft.
Wirrick's No. 1 Lee, SE SW Sec. 29-3-7 .....Drlg. 2,050 ft.

POTTAWATOMIE COUNTY

Payne Drlg. Co.'s No. 1 Lovelace, NW SW NW Sec. 27-6-4 W.O.C.S. 3,623 ft.

SEMINOLE COUNTY

Sibbie & Freeman's No. 1 Gilbert, SW NW Sec. 25-8-7....Machine.
Stewart & Egan's No. 1 Sanderson, NE SW Sec. 27-6-5..Rig.
Filmlee's No. 1 Bowlegs, SE NE SW Sec. 1-7-7 .....Drlg. 510 ft.
Armstrong et al's No. 1 Diamond, NE SE SW Sec. 4-6-7..Drlg. 2,000 ft.
Donnelly et al's No. 1 Shepard, SE NE Sec. 4-8-8.....Sand 1,395-1,405 ft; wtr.; fishing 1,640 ft.

WASHITA COUNTY

McWhirter & Bost's No. 1 Hall, SW SE SE Sec. 28-8-19w..Drlg. 100 ft.

Southern Oklahoma

ATOKA COUNTY

Blake's No. 1 Galbreath, SW NE SE Sec. 5-1-15 .....Drlg. 1,348 ft.
Malernee et al's No. 1 Cole, NE NW Sec. 19-2s-14.....Machine.
L. E. Stewart et al's No. 1 Stewart, SE SE Sec. 2-4s-10...Drlg. 1,825 ft.
Wacker et al's No. 1 Baskett, SW NE NW Sec. 18-1-15..Drlg. 325 ft.

CARTER COUNTY

P. Turner's No. 1 Dove, NE NW SE Sec. 2-5-1.....Rig.

JEFFERSON COUNTY

Hobbs' No. 1 Barnett, NE SE SW Sec. 32-5-5w.....Drlg. 2,190 ft.
Wakefield's No. 1 Kelly, NW SE Sec. 1-5-5w.....Drlg. 550 ft.

STEPHENS COUNTY

Doyle Oil Co.'s No. 1 Cunningham, SE NE NW Sec. 4-1-4w .....Drlg. 2,500 ft.
Navajo O. & G. Co.'s No. 1 Martin, SE SW NW Sec. 18-1-5w .....Fishing 4,821 ft.
Sledge et al's No. 1 Worley, SW SE SW Sec. 32-2-7w...Drlg. 460 ft.

TILLMAN COUNTY

Emenheser et al's No. 1 Pace, C SW Sec. 3-4s-17w.....Drlg. 3,015 ft.
Gypsy Oil Co.'s No. 1 Pitcher, NW Sec. 26-4s-15w.....Drlg. 2,764 ft.
Gypsy Oil Co.'s No. 1 Co. Dn. Pony, NW cor. Sec. 27-4s-15w .....Drlg. 2,647 ft.

SW NW, Section 3-11-3w, and No. 2 Frisco Freight House, SW cor. NE SW NW, Section 3-11-3w.

Development of Wentz Pool

The Wentz Pool, near Lucien in Noble County, is to be developed in an orderly manner and it is probable that considerable experimental work will be carried on during the balance of this year.

Operators in the Wentz Pool area expect to drill about 16 wells in that field this year, Ralph Roark, production manager of Shell Petroleum Corp., told the Corporation Commission. These wells are needed to define the structure. Agreement has been reached on 40-acre locations within the unitized block, but it is believed possible some 10-acre locations may be required to offset wells that will be drilled offsetting the block.

It is the present intention of the operating company in the Wentz Pool to tube the wells when they go on production in order to conserve the gas energy. The oil-gas ratio in the area is now estimated at 2,500 feet of gas to 1 bbl. of oil, with the agerage pressure of the wells 2,200 pounds. Up to the present time the wells have not been tubed because they are permitted to produce only 50 bbls. a day under the wildcat ruling and they are shut in making up overproduction.

New locations announced in the Wentz Pool area during the week include two in the south end of the field. The Stanolind Oil & Gas Co.'s No. 1 D. L. Kolb, C NW NE, Section 33-20-2w, and the same company's No. 1 Frederick, C SW SE, Section 28-20-2w. Both of these tests offset the same company's No. 1 S. Kolb, a producer 2½ miles southeast of the discovery well in the area.

On the extreme west side of the field two additional locations were made, the Texas Co.'s No. 1 Maxwell, C NE NW, Section 18-20-2w, and Continental Oil Co.'s No. 1 Hafner, C NE SW, Section 18-20-2w.

Another Test in Messer Area

The drilling of another test in the Messer area of Oklahoma County is expected to start at once. Cromwell-Franklin Oil Co. and others' No. 1 Ketchum, in Section 32-14-3w, west of Edmund, was announced during the week. The semiwildcat test will be located about three-quarters of a mile east of the Mid-Kansas Oil & Gas Co.'s No. 1 Messer, which has been shut in for several years after showing for a producer from the Wilcox sand.

Asks for Reclassification

The Oklahoma Corporation Commission has been asked to decide what producing horizon the two wells of the Oklahoma City Refining Co. in Section 3-11-3w are producing from. The company has asked the commission to reclassify its No. 1 Refinery and No. 1 Hills as producers from the Simpson sand above the Wilcox sand. They are now classified as Wilcox sand producers, and as such are subject to the same proration percentages as all the other Wilcox sand wells in the field. The company wants reclassification of these two wells, which would create the fifth producing horizon for the Oklahoma City Field.

The company is attempting to convince the commission that it has found another producing horizon or source of supply, and if it is granted the company will nominate the entire output of these two wells for its own use. The offset producers are opposing this move and have an array of geologists to testify that in their opinion these wells are producing from the Wilcox sand.

The two wells were completed more than a year ago, but it was not until about two months ago that the company sought the reclassification. It is claimed that the original samples of the cuttings from these wells were never given out, according to Jack Travis, who drilled the wells. At a hearing this was disputed by some geologists, who claim that they were furnished samples while the wells were drilling. Some of these samples were retained and brought into court with a microscope to permit identification.

The owning company is claiming that samples secured about two months ago when the wells were shot in the producing horizon do not show that any Wilcox sand was found.

Geologists, including some that are employed by companies with no interest in the Oklahoma City Field, hold that the wells are producing from the Wilcox sand.

Charges of Overproduction

Five producing wells in the Oklahoma City Field were shut in July 7 by a temporary injunction order of the Corporation Commission, when charges of overproduction and violation of proration rules were made. Hearing has been set for July 18. It is alleged that the wells were overproduced since January 1, which would make part of the time of the alleged overproduction prior to the passage of the new proration law in April. This will be the first prosecution under authority granted in the new law.

The wells are Hall-Briscoe, Inc.'s No. 1 Mueller and No. 1 Stegall, R. A. McArthur interests' No. 1 Kammerdeiner, McArthur-Pruitt's No. 1 Pruitt and Rio Neches, Inc.'s No. 1 Armour.

The amount of the overproduction on each of the wells has not been definitely set. The alleged overproduction on some of these wells dates back to the time when Col. Cicero I. Murray was in charge of the proration situation in the Oklahoma City Field under an executive act. At that time a number of investigations were made of some of these wells and later when the senate investibation committee was working it attempted to probe into the activities of several companies.

The senate investigation of the proration situation in the Oklahoma City Field developed that considerable oil from some of the R. A. McArthur properties was handled through outside sources.

Hearing on a petition of the Indian Territory Illuminating Oil Co. for rules and regulations for proration and conservation of oil and gas in the Simpson sand, below the Wilcox zone in the Oklahoma City Field, was started on July 6, before the Corporation Commission, and will probably continue through the week.

The petition of J. C. Shaffer, Heenan & Coe and others for similar rules and regulations in the Wilcox sand zone of the field was continued until July 12.

Atoka County

Malernee and others' No. 1 Greenville National Bank, NW cor. SW Section 36-2-13, is a machine. Same company's No. 1 Cole, NE cor. NW Section 19-2-14, is a machine.

Carter County

Samedan Oil Co.'s No. 3 Hopson, SW cor. SE NE Section 25-1s-3w, is a location. K. D. Oil Co.'s No. 5 Burton, NW cor. SW NW Section 30-1s-2w, was drilling at 20 feet.

Creek County

Carter Oil Co.'s No. 1 B. Hales, C W half SW NE Section 28-17-9, was drilling at 250 feet. Smith and others' No. 3 Tucker, SE cor. NW SW Section 14-17-8, is a rig. J. E. Crosbie's No. 6 Escoe, NW cor. SW SW Section 20-18-8, is a machine. Samples & Mann's No. 1 Crosslin, NE cor. SW NE Section 3-19-8, is a machine. Galbreath & Byers' No. 1 Johnson, NE cor. SW Section 5-19-8, made 70 bbls. from 2,014-34 feet. Big Four Petroleum Co.'s No. 2 McIntosh, SE cor. SW SE Section 34-19-8, made 1,000,000 feet of gas from 1,860-70 feet. Gled Oil Co.'s No. 2 Escoe, NE cor. SE SE Section 27-18-8, made 85 bbls. from 1,311-29 feet. Curtis Oil Co.'s No. 1 Chupo, SE cor. SW SE Section 18-17-10, made 750,000 feet of gas from 2,344-49 feet.

Hughes County

Phillips Petroleum Co.'s No. 3 Jacobs, SW cor. NE NE Section 16-7-8, is a machine. Baskin & Leeper's No. 1 Copperidge, SE cor. Section 16-7-8, is a rig. Limestone Oil & Gas Co.'s No. 8 Walker, SW cor. SE NE Section 15-7-8, is a location. Same company's No. 7 Walker, NW cor. NE NE Section 15-7-8, made 25 bbls. from 1,217-49 feet.

McIntosh County

Harmon Brothers' No. 1 Jackson, NE cor. Section 9-12-14, is a machine. McInturff's No. 3 Porter, SE cor. NE SE Section 4-12-14, was drilling at 100 feet.

Marshall County

J. Peacock's No. 1 McDuffee, NE cor. SE SW Section 3-7s-6, is a location. Same operator's No. 4 Flinn, SW cor. NW SW SE Section 3-7s-6, made 35 bbls. from 806-16 feet.

Muskogee County

W. Mote's No. 1 Lyons, NE cor. NW NE Section 8-14-17, is a machine.

Noble County

Stanolind Oil & Gas Co.'s No. 1 D. L. Kolb, C NW NE Section 3-20-2w, is a location. Same company's No. 1 Frederick, C SW SE Section 28-20-2w, is a location. Texas Co.'s No. 1 Maxwell, C NE NW Section 18-20-2w, is a location. Continental Oil Co.'s No. 1 Hafner, C NE SW Section 18-20-2w, is a location. Wentz and others' No. 1 Eyler, C SE SW Section 10-21-2, is a location.

Oklahoma County

Denver Producing & Refining Co.'s No. 1 Frisco Freight House, SW cor. SE NW NW Section 3-11-3w, is a rig. Same company's No. 2 Frisco Freight House, NW cor. SE NW NW Section 3-11-3w, is a rig.

Okmulgee County

Colton and Phillips Petroleum Co.'s No. 3 Huckaby, SE cor. NE SW Section 30-14-12, is a machine. Pettenger & Wagoner's No. 1 Bell, NW cor. Section 5-15-12, is a rig. H. E. West's No. 1 Douglass, NW cor. SE NW Section 22-12-13, is a machine. Ferrell & Clark's No. 1 Strip, SE cor. NE SE SW Section 26-12-12, is spudding. English & Hendrick's No. 8 Rentie, NW cor. SW NW Section 35-15-14, was abandoned at 2,437 feet.

Osage County

Texas Co.'s No. 1, SE cor. NW Section 12-23-7, is a machine.

Pontotoc County

W. A. Delaney's No. 1 Busby, SW cor. SE SE Section 20-5-8, is a machine. Same operator's No. 2 Busby, SE cor. SW SE Section 20-5-8, is a location. Brydia Oil Co.'s No. 2 Lane, SW cor. NW Section 30-5-5, made 195 bbls. from 2,430-2,532 feet.

Pottawatomie County

Lippa Drilling Co.'s No. 1 Thomas, SW cor. SE NW Section 6-9-5, is a location. Hilton Phillips' No. 1 Cherry, NE cor. SW Section 21-7-4, is a location. Superior Oil Co.'s No. 1 Hamm, NE Section 5-6-4, is a location. Gypsy Oil Co.'s No. 2 Gray, NW cor. SW Section 25-6-4, made 2,052 bbls. from 3,315-3,445 feet. Stewart & Clark's No. 2 Brister, NW cor. NE Section 28-7-4, made 2,480 bbls. from 4,023-4,133 feet.

Stephens County

McAlester and others' No. 1 Parker, SE cor. NE SE Section 11-2s-8w, was drilling at 200 feet.

Seminole County

Anderson & Kerr's No. 1 Anderson, SW cor. NW NE Section 22-10-7, is a location.

Tulsa County

H. E. Rothrock's No. 1 Billy, C NE SW Section 36-17-14, is a location.

Wagoner County

Mack Drilling Co.'s No. 6 Richards, C NW NW Section 34-16-15, twin, was drilling at 600 feet. E. W. Ladd's No. 3 Smith, CNL SE NE Section 14-16-15, was drilling at 400 feet.

IMPORTANT BOOKS
for the Oil Man's Library

"GEOLOGY OF PETROLEUM"

"Geology of Petroleum" is the title of a book, now in its second edition, by Dr. William Harvey Emmons, professor and head of the Department of Geology and Mineralogy, University of Minnesota, and this title briefly, but completely, describes the work. It treats strictly the geology of petroleum, natural gas and associated materials. Nothing is included on geophysical prospecting.

In preparing this book Doctor Emmons had in mind presenting to the public a textbook and a brief compendium or manual relating to the geology and deposits of oil-bearing areas. Essentially all of the world's oil fields are briefly treated, with references to the important literature.

Because the book is designed as a manual as well as a textbook, certain small fields are included which might otherwise have been omitted. This makes the book of especial interest to oil men who find it difficult to secure reliable geological information upon some of the smaller fields.

The manuscript for this book was reviewed before publication by such prominent petroleum geologists as A. I. Levorsen, Gail F. Moulton, W. B. Wilson, H. J. Wasson, Hubert E. Bale, J. B. Umpleby, Charles Taylor, Frank R. Clark, L. L. Foley, John H. Nelimark and J. M. Brown. This in itself should constitute a strong recommendation to the oil men because each of those men is recognized as a specialist in his particular area.

The book contains 736 pages and is fully illustrated with maps, cross sections, logs and other data that supplement the text in such a way as to give a clear description of each of the fields treated.

The opening chapters deal with surface indications, openings in rocks, reservoir rocks and covering strata, some of the properties of petroleum, gas and oil field waters, origin of petroleum and its accumulation, structural features of oil and gas reservoirs, behavior of wells and deformation of petroliferous strata.

With this groundwork in petroleum geology the balance of the book deals with details of fields in this country by districts, and concludes with a chapter each on South America, Europe except Asia, Russia, Oceanica and Asia, except Russia, and Australia and Africa.

This book should find a place in every oil man's library, for it will serve as a ready reference to many geological problems that will come up in the course of his work, and also as a means of securing general geological data upon most of the important fields in this and foreign countries.

"Geology of Petroleum" may be purchased through the Book Department of The Oil and Gas Journal at the regular postpaid price of $6, payable by check or money order before book is forwarded.

Kansas Production Averaged 131,600 Bbls. Daily But Does Not Come Up to Crude Demand

By W. A. SPINNEY
Staff Correspondent, Kansas Fields

The outstanding feature for the week ending July 8, in Kansas oil fields, was the large increase in the daily average production from its fields. This increase was estimated at 15,000 bbls. a day over the previous week, giving the State an average of 131,600 bbls. per day. The last previous daily average production that exceeded this figure was in May, 1930, when the Voshell Pool in McPherson County was producing its flush oil and the State's production reached a peak of 134,500 bbls. per day as an average for one week.

The next in importance was the finding of large production in a test just south of the Chase townsite in Rice County on a small tract of land. The well is estimated as high as 3,000 bbls. a day. It is E. F. Jones Oil & Gas Co.'s No. 1 Rose, NE cor. E half SE, Section 31-19-9w. It filled up to the top of the hole in 30 minutes and on a pumping test made 100 bbls. an hour for 17 hours which was the capacity of the tubing. The pay was found in Siliceous lime at 3,224-28 feet. The Jones Oil & Gas Co. owns the south and east offsets and Roy Ramsey the north offset. It is the largest well yet completed in the Chase townsite area.

The daily average production of the principal pools in the State for the week ending July 8, was as follows:

Pool—	Week ending July 8	Previous week
Hollow	17,930	10,780
Ritz-Canton	24,520	18,735
Voshell	6,790	6,019
Sedgwick County	9,125	9,335
Mabee (Nikkel)	10,560	8,330
Ellsworth County	1,895	1,880
Barton County	630	620
Rice County	2,995	2,980
Reno County	1,865	1,850
Stafford County	200	195
Total	76,510	60,705
Others	55,090	55,645
Total state	131,600	116,350

Busy in Harvey and McPherson

Interest in the development work in the State continues in Harvey and McPherson Counties. New locations announced in the Hollow Pool, in Harvey County, include Reserve Oil Co. and Lario Oil & Gas Co.'s No. 1 Wall, NE cor. SW SW, Section 4-22-3w, and Magnolia Petroleum Co.'s No. 2 Schmidt, NE cor. NW NE, Section 30-22-3w.

The W. C. McBride, Inc.'s No. 3 Schmidt, in Section 30-22-3w, found the top of the Hunton lime at 3,403 feet and was preparing to drill deeper. Same company's No. 3 Schmidt, in Section 20-20-3w, found the top of the chat at 3,165 feet.

The Continental Oil Co.'s No. 1 Paul, in Section 17-22-3w, made a swabbing test for 10 hours and it made 15 bbls. an hour from the Hunton lime at a total depth of 3,506 feet after drilling out the cement plugs.

In the Ritz-Canton Pool, in McPherson County, in the extreme south end of the field, Palmer and others' No. 1 Winn, in Section 7-20-1w, found oil in the Viola lime at 3,405-06 feet. The oil increased at 3,415 feet and after the well was drilled to a total depth of 3,422 feet, oil rose 300 feet in the hole. The casing was landed and cemented at 3,404 feet.

Harris & Haun's No. 1 Sellers, in Section 19-19-1w, found what was estimated to be 3,000,000 feet of gas in the chat at 2,930-38 feet.

In the north end of the Decker gas area of the Ritz-Canton Field, McPherson Oil & Gas Co. and others' No. 3 Fleming, C NE NW, Section 11-19-2w, is a new location.

The wildcat test about 1½ miles southwest of the production in the Hollow Pool, in Harvey County, the Frank Hollow and others' No. 1 Heiderbrecht, in Section 36-22-4w, Reno County, found the Hunton lime dry from 3,665-73 feet. The test may be plugged back to test a showing of gas found in the chat formation.

Hartman and the Shell Petroleum Corp.'s No. 1 West, in Section 34-19-3w, McPherson County, was drilled to a total corrected depth of 3,409 feet in lime and was waiting for casing.

Before the recent crude oil advances premiums were being offered for crude oil in Kansas fields, while practically all the purchasing companies had asked for an increase in allowables. The Corporation Commission, however, has been reluctant to grant higher allowables, since it has adopted the policy of preventing overproduction.

The Golden Rule Refining Co. had been paying a premium for crude for the last few weeks prior to the crude advance. Dickey Refining Co. at McPherson had posted a premium for western Kansas crude oil, the bonus depending upon the handling charges. The Globe Oil & Refining Co. is reported to be active in soliciting connections in territories in which it has gathering lines. It is also reported that some of the smaller refineries in the central and western part of the State have been paying 52 cents per barrel regardless of gravity. The Corporation Commission refused to increase the allowables until the underproduction has been made up. Considerable oil accumulated as underproduction as the result of the producers' strike.

Corporation Commission Rules

The Kansas Corporation Commission issued the following rules and regulations for the conservation of oil and gas in the State of Kansas, revising its previous orders issued on October 10, 1932:

Rule 1. Waste Prohibited. Natural gas and crude oil or petroleum shall not be produced in such a manner and under such conditions as to constitute waste, as hereinafter defined.

Rule 2. Waste Defined. The term waste as above used, in addition to its ordinary meaning, shall include escape of natural gas into the open air, the intentional drowning with water of a stratum capable of producing crude oil or natural gas, underground waste, economic waste, surface waste, waste of gas energy, waste incident to the production of crude oil in excess of transportation or market facilities or reasonable market demands.

Rule 3. Gas to be confined; strata to be protected. Whenever crude oil and natural gas in appreciable quantities or an oil and gas bearing stratum known to contain crude oil and natural gas in such quantities, is encountered in any well drilled for oil or gas in this State, such oil and gas shall be confined to its original stratum until such time as the same can be produced and utilized without waste, and all such strata shall be adequately protected from infiltrating waters.

Rule 4. Approved methods of preventing waste to be used. All operators, contractors or drillers, pipe line companies, gas distributing companies or individuals, drilling for or producing crude oil or natural gas, or piping oil or gas for any purpose, shall use every possible precaution in accordance with the most approved method to stop and prevent waste of oil and gas or both, in drilling and producing operations, storage, or in piping or distributing, and shall not wastefully utilize oil or gas, or allow same to leak or escape from natural reservoirs, wells, tanks, containers or pipes.

Rule 5. Installation of high pressure fittings. In drilling in a gas or oil and gas fields where high pressures are likely to exist, all proper and necessary precautions shall be taken for keeping the well under control, including the use of blowout preventors and the installation of high pressure fittings.

Protecting Each Stratum

Rule 6. Wells not to be permitted to produce oil and gas from different strata. No well shall be permitted to produce both oil and gas from different strata unless it be in such manner as to prevent waste of any character to either product. Therefore, if a stratum should be encountered bearing oil or gas and the owner, operator or contractor should drill deeper, the stratum first penetrated and likewise each and every oil or gas producing horizon in turn shall be closed separately, and if it is not wanted for immediate use, it shall be securely shut in so as to prevent waste, either open or underground.

Rule 7. Operator shall effectually shut out and exclude all foreign waters from any oil or gas bearing stratum and take all proper precautions and measures to prevent the contamination or pollution of any fresh water supply encountered in any well drilled for oil or gas.

Vacuum Pump Regulations

Rule 8. Vacuum pumps not to be installed except upon application to the commission. The installation of vacuum pumps or other devices for the purpose of putting a vacuum on any gas or oil bearing stratum is prohibited, provided that the commission may, on application of any operator desiring to install such apparatus and upon notice to adjacent leaseowners or operators, grant the use of such vacuum pumps or other devices, and in the matter of vacuum pumps heretofore installed the use of same is authorized unless specifically discontinued by order of the commission upon notice and hearing.

Rule 9. Gauge to be taken, reports to commission. Wherever any gas waste exists all oil and gas operators shall, when so directed by the commission, take a gauge of the volume and rock pressure of such wells wasting natural gas.

Rule 10. Notice to contractors, drillers and others to observe rules. All contractors and drillers carrying on business or doing work in the oil and gas fields of the State, as well as lease holders, landowners, operators, and other parties interested, shall take notice of and are hereby directed to observe and apply the foregoing rules and regulations, and all contractors, drillers, landowners, operators and other interested parties will be held responsible for infraction of said rules and regulations.

Wildcat Operations in Kansas

(Descriptions are East unless marked otherwise)

BARTON COUNTY

Company, farm and location— Remarks:

Rankin et al's No. 1 Scoog, C SW NE Sec. 34-18-12w...Drlg. 3,504 ft.
Skelton et al's No. 1 Ott, C SE SE Sec. 16-19-14w .....O.W.D.D.; T.D. 3,607 ft.; C.O.

BUTLER COUNTY

Hartman et al's No. 1 McCann, SE SW NW Sec. 7-25-3..Drlg. 250 ft.
Marylyn Oil Co.'s No. 1 Harsh, NE SW Sec. 33-23-5 ....Drlg. 500 ft.

COWLEY COUNTY

E. Yarnell's No. 1 Speer, SE NE NE Sec. 31-33-6 .....Drlg. 1,205 ft.

ELK COUNTY

Austin et al's No. 1 Wade, C NE NE Sec. 9-25-12 .....Drlg. 1,900 ft.

ELLSWORTH COUNTY

Rex Etnyre's No. 1 Arnsman, C SW SW Sec. 10-15-7w..Rig.

GRAHAM COUNTY

Schleimeyer et al's No. 1 Smith, SE Sec. 24-8-25w.....Fishing 4,180 ft.

GREENWOOD COUNTY

Chas. Reser et al's No. 1 Hull, NW SE Sec. 8-26-9 .....Fishing 1,955 ft.
Reeser & Chriswell's No. 1 Wright, C SW SW Sec. 28-25-10 .....Spudding.
Wright's No. 1 Madren, SW SE SW Sec. 28-23-12.....Machine.

KINGMAN COUNTY

Garden et al's No. 1 Unknown. Sec. 11-27-7w ..... Drlg. 2,402 ft.

MARION COUNTY

Hutchinson Oil & Gas Co.'s No. 1 Miller, NW cor. Sec. 6-17-3 .....Drlg. 1,300 ft.

McPHERSON COUNTY

Clum et al's No. 1 Nelson, C NE NW Sec. 12-18-4w.....Drlg. 2,984 ft; show wtr.
Sever and Hessman's No. 1 Scrag, 8½ SE Sec. 22-19-4w..Rig on ground.
Gaume & Maxwell's No. 1 Goering, NE SE SW Sec. 24-22-3w .....Rig.
Investers Mineral Dev. Co.'s No. 1 Kaufman, SE Sec. 35-21-3w .....Rig.
Roth & Farout's No. 1 Swanson, NE SW NE Sec. 13-19-3w .....Rig.

PRATT COUNTY

Ninnescah O. & G. Co.'s No. 1 Hardesty, SW SE SE Sec. 28-27-11w .....Drlg. 4,427 ft.

RENO COUNTY

Roth & Farout's No. 1 Yoder, C NW NW Sec. 15-24-5w..C.O. 225 ft.

RICE COUNTY

Langston et al's No. 1 Wells, NE SE Sec. 4-20-9w.....Drlg. 2,475 ft.

ROOKS COUNTY

Kruger's No. 1 Rathburn, SE NW SW Sec. 14-9-16w.....Rig.

SALINE COUNTY

Dieter, Warren and Lario O. & G. Co.'s No. 1 Fulton, SW NW Sec. 14-16-3w .....Drlg. 3,475 ft.

SUMNER COUNTY

Deal O. & G. Co.'s No. 1 Tompkins, SW cor. Sec. 26-33-1. Fishing 3,690 ft.

WOODSON COUNTY

F. Fiele's No. 1 Munson, SW NE SW Sec. 9-25-14 .....Drlg. 500 ft.

Ellsworth County

Gypsy Oil Co.'s No. 4 Stoltenberg, NE cor. NW SW Section 22-16-10w, made 1,910 bbls. from 3,343-56 feet.

Greenwood County

Skelly Oil Co. and others' No. 23 Wick, SW cor. NE NW Section 27-22-11, is a location. F. G. Hall and others' No. 1 Varnes, NE cor. SW SE Section 1-22-11, is a machine. Wolf Creek Oil Co.'s No. 1 Kaug, SE cor. NE Section 15-25-13, is

(Continued on Page 57)

Converse Area Completes Its Biggest Producer; New Operations in Arkansas-Mississippi

By D. H. BANCROFT
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., July 10. — The Converse area of Sabine Parish continued as the center of interest in this territory during the week with completion of its biggest producer so far, and another well on the north side, a semiwildcat, showing much salt water with oil and gas. The completion was O. S. Golden and others' No. 1 Cranford, NW SE Section 20-9-13, in the center of proven territory, rated at 300 bbls. per day from 1,852 feet. When it first made its show it looked like a 10,000-bbl. producer in the opinion of some observers but it maintained that rate for only a short while and went dead twice. After setting 2½-inch tubing it started flowing again at 300 to 400 bbls. Some say it is good for 450 bbls. It flows 10 or 12 hours on a stretch, goes dead for three or four hours and starts flowing again. The other hot well, Sabine Production Co.'s No. 1 Whitney Corp., in Section 4-9-13, 1¼ miles northwest of nearest production, was a commercial gas well at 3,082 feet but was killed and deepened to 3,061 feet where with the bottom in 6 feet of sand, it tested 2,600 feet of salt water with a show of oil and gas and was arranging to run 4½-inch casing to shut off the water believed to be coming from a shallower sand.

Other than these two wells there was little development of importance in the territory. Only nine new locations were actually staked, though the number of permits taken out with the state department of conservation continues to run high. Fourteen wells were checked off the list as completions scattered all over the territory with all but two of them in Louisiana. Of these two, one was in Arkansas and the other in Mississippi. One of the new locations also was in Mississippi.

Caddo Parish

J. B. Hutchinon, trustee, has derrick up for No. 1 Story Phillips in the SW NE Section 28-16-13, Caddo Parish, on one of three blocks recently assembled in the southeast corner of the parish on which the geology is said to be good. Nick Barbare has rig up for No. 2 P. A. Sharpe, NE NE Section 9-18-16, Blanchard gas district of Caddo Parish, and Kerley-Lipton Oil Syndicate made location for No. 1 Sibley, NE SW Section 15-19-14, Caddo Parish, a wildcat southeast of the more or less abortive Dixie Field that featured developments three years ago. G. D. Davis made location for No. 1 Louisiana Central Lumber Co. in SW SW Section 14-11-3e, Caldwell Parish, which will be another test on the north fringe of the Conroe-Jackson trend play. N. B. Porter is rigging up to drill No. 1 J. W. Porter estate in the SE SE Section 23-12-13, DeSoto Parish, in wildcat territory about 10 miles south of Mansfield, and Bailey and others have derrick up for No. 1 F. A. Alston, NE SW Section 11-11-16, DeSoto Parish, south of Longstreet, in the extreme southwest corner of the parish and approximately 10 miles south of Oakes and others' deep test at Logansport. United Gas Public Service Co. has derrick up for No. 1 fee 132 in Section 2-19-3e, Ouachita Parish sector of the Monroe gas field. Only one new location was actually listed for Sabine Parish, Creighton Oil Co.'s No. 1 Bowman-Hicks in Section 2-7-12, Zwolle district. J. A. Alexander, trustee, has rig up for No. 1 Love Petroleum Co., NW NE Section 1-5-1e, Rankin County, Jackson gas field of Mississippi.

Fourteen Completions

Of the 14 completions eight were in Sabine Parish, Louisiana, one the Converse producer and another a 75-bbl. well in Zwolle and a third was an abandoned location. Ike Gearreald and others' No. 1 Shull, SW SW Section 26-8-12, was dry at 2,589 feet. Martin and others' No. 1 Porter, NW SW Section 30-8-11, pumped 75 bbls. from 2,280 feet. H. L. Patton's No. 1 Ponder, SE NW Section 15-7-11, was abandoned at 2,378 feet without a test. Pugh-Hickman Drilling Co.'s No. 7 Blackman, NE NW Section 36-8-12, was abandoned at 2,538 feet after testing oil with salt water. Roberts & Sledge's No. 1 Louisiana Long Leaf Lumber Co., NE SE Section 27-8-10, was dry and abandoned at 2,612 feet. Robertson Drilling Co.'s No. 2 Hughes, SW NW Section 36-8-12, was dry at 2,595 feet and the abandoned location was E. M. Self No. 1 Newton, in NE SE Section 1-7-11. T. J. Woodley, trustee, abandoned No. 1 Thompson & Kelly, Section 11-2n-5e, Avoyelles Parish, at 2,250 feet where it had been shut down since last December. It had been scheduled for 3,200 feet to test a block of 30,000 acres on which it is understood the leases have lapsed.

In DeSoto Parish P. B. Dyer's No. 1 B. F. Jenkins, NW SW Section 35-13-12, was completed as a gasser making 3,500,000 feet from 2,477 feet. Location is on the west side and across Red River from Red River Parish production. United Gas Public Service Co.'s No. 28 Crossett, Section 27-21-4, Morehouse Parish sector of the Monroe gas field, made 6,000,000 feet of gas from 2,150 feet, and its No. 1 fee 101, Section 7-20-4, Union Parish, made 8,000,000 feet of gas from 2,147 feet. M. E. Sanderson abandoned No. 1 Hall, SE SE Section 22-12-29, Ltitle River County, Arkansas, at 1,480 feet and Love Petroleum Co. completed No. 1 fee, NE NE Section 1-5-1e, Rankin County, Mississippi, making 47,500,000 feet of gas from 2,367 feet. John B. Watkins, trustee, started drilling No. 2 McGehee Planting Co., NE SW Section 5-8-7 Lincoln County, Arkansas, June 30 and was down 980 feet, after skidding 50 feet west of No. 1 on the same lease, abandoned two weeks ago at 4,430 feet.

Daily Average Runs

Daily average pipe line runs from the field slumped 1,400 bbls. from the territory as a whole compared with last week's runs. Louisiana accounted for 1,010 bbls. of the decline in spite of the runs from the new Converse Field in Sabine Parish. These runs, however, appear to be included in the figures from Zwolle since Converse has not yet been given a separate rating as the oil from the two pools is much the same in grade and quality. Louisiana runs totaled 24,230 bbls. compared to 25,240 bbls. the week before, and Arkansas' runs of 29,822 bbls. were 408 bbls. short of last week's 30,230 bbls. Runs from the several pools were:

NORTH LOUISIANA

	Bbls.
Caddo light	4,635
Caddo heavy	1,579
Cotton Valley	455
DeSoto-Red River	1,590
Elm Grove	325
Haynesville	3,720
Holly	205
Homer	2,650
Pleasant Hills	255
Sarepta-Carterville	815
Urania	1,505
Zwolle	6,915
Total	24,230
Last week	25,240
Decrease	1,010

ARKANSAS

Champagnolle	1,360
El Dorado	2,580
Lisbon	415
Miller County	100
Nevada County	475
Smackover light	2,581
Smackover heavy	21,511
Stephens	365
Urbana	435
Total	29,822
Last week	30,230
Decrease	408
Both states	54,052
Last week	55,470
Decrease	1,418

NORTH LOUISIANA

J. T. Anderson's No. 1 Leonard, SW SW Section 19-19-13, Bossier Parish, 9 miles north of Shreveport, was dry at 2,564 feet and was coring in the red beds at 2,571 feet. H. I. Morhan's No. 2 Smith, Section 22-19-11, Bossier Parish, on the south flank of the Bellevue Dome, was coring hard lime at 4,889 feet. United Gas Public Service Co.'s No. 1 Schnitt, Section 14-17-12, Sligo gas district of Bossier, an old well completed as a gasser at 877 feet and again at 1,965 feet, set 4½-inch casing at 2,412 feet, total depth 2,492 feet. It is understood it is to be a 3,000 to 3,500-foot test for production in the Woodbine horizon. John F. Kerper's No. 1 Barron, NE SE Section 17-16-14, south and east of the Bethany gas district of Caddo Parish and Panola County, Texas, will be one of two or three wildcats in that part of the country that will be kept close tab on as there is good geology and several years ago one of the major companies completed a small producer that pumped out only a year or so ago and there has been plenty of good shows. Why the area has not been more thoroughly prospected before now, on the strength of these shows, is probably due to much more positive indications elsewhere in the territory.

Catahoula Parish

George Greer and others cemented 2,735 feet of 6⅝-inch casing on No. 1-B Louisiana Central Lumber Co., Section 2-9-6, Catahoula Parish, total depth. On the strength of the showing of their first well in the same section this location is touted as a probable gas well opening a new field in the east central part of Louisiana. There have been other wells in the same general locality that showed the same but were lost for one reason or another. Greer's No. 1 Louisiana Central Lumber Co. was estimated ta 15,000,000 feet of gas at 2,477 feet in the Wilcox but with no casing in the hole developed salt water after blowing wild for 12 hours and then went dead with drill stem in the hole. It is still there. Haynesville Partnership's No. 1 Garrett, Section 24-23-8, a deep test in the old Haynesville Pool of Claiborne Parish, is a failure but not yet abandoned on the field reports. It got salt water at 4,707 feet. Perhaps the same interests will try another deep test. United Gas Public Service Co.'s No. 1 Meadows, Section 13-21-5, Claiborne Parish, was coring gray sand and shale at 6,560 feet and No. 1 Durrett, NE SE Section 31-20-5, Sugar Creek Trinity gas district of Claiborne Parish, had 12½-inch surface pipe cemented at 502 feet.

Bailey Gants' No. 1 Jenkins, SE SW Section 35-13-12, DeSoto Parish, got salt water at 3,069 feet and is awaiting orders. E. T. Oakes' No. 1 Bryant estate, Section 30-13-13, DeSoto Parish, one of a half dozen or more "hot" wells scattered through the territory, got 7-inch casing cemented at 4,454 feet, total depth 4,614 feet. It is supposed to have cut a saturated core for the last 20 feet but there is so much difference of opinion as to what formation it is in enthusiasm has rather cooled off lately. Jack Whitson's No. 2 Sanders, Section 19-11-13, DeSoto Parish, which has staged two gas blowouts, was coring at 2,985 feet. Texas Co.'s No. 1 Sisson, a deep test in Section 20-22-7, Morehouse Parish, part of the Monroe gas field, is waiting orders at 3,505 feet after coring a dry white sand from 3,501 feet and probably will be abandoned. United Gas Public Service Co.'s No. 2 Taylor-Sandidge, Section 12-20-4, Morehouse Parish, tested 200,000 feet of gas at 2,234 feet and is awaiting orders.

Outside of the Converse district, there (Continued on Page 60)

Wildcat Operations in Louisiana-Arkansas

(Rotary operations unless otherwise designated)

North Louisiana

AVOYELLES PARISH

Company, well, farm name, section and block— Remarks:

Gary Prevenson's (was Bud Harrell et al) No. 1 Haas, 330 ft. N and W, SE cor. SW SW Sec. 9-1s-3e .....Derrick.

BOSSIER PARISH

Cryer Oil Co.'s No. 1 fee, 2,400 ft. N, 1,080 ft. E, SW cor. Sec. 35-19-12 .....Show gas; S.D. 1,100 ft.

A. W. Phillips, tr.'s No. 1 Oden, 300 ft. W, 150 ft. N, SE cor. NW NW Sec. 4-18-13 .....S.D. 1,704 ft.

Dr. C. R. Reed, tr.'s No. 1 C.J.&B., Sec. 18-16-11 .....Rigging up.

B. A. Sherrell, tr.'s No. 1 fee, NE NW NW Sec. 18-19-11..Drlg. 1,046 ft.

CADDO PARISH

J. T. Humphrey et al's No. 1 Powell, 330 ft. N and E, SW cor. NW SE Section 14-19-15 .....Derrick.

A. D. King, tr.'s No. 1 Roach, 641 ft. E, 375 ft. N, SW cor. SW SW Sec. 4-14-16 .....Derrick.

CATAHOULA PARISH

George Greer et al's No. 1-B La. Cen. Lbr. Co., Sec. 2-9-6, 2,045 ft. N, 1,930 ft. W, SE cor. .....Cmtd. 6⅝-in. 2,735 ft.

CLAIBORNE PARISH

United Gas Public Service Co.'s No. 1 Meadows, approximately 100 ft. S, center E½ E½ Sec. 13-21-5...Coring gray sand and shale 6,500 ft.

DE SOTO PARISH

Bailey Gantz et al's No. 1 Jenkins, NW cor. SE SW Sec. 35-13-12 ..... Tested S.W.; W.O. 3,069 ft.

N. B. Porter's No. 1 J. W. Porter Est., 330 ft. N and E, SW cor. SE SE Sec. 23-12-13 .....Rig up.

RAPIDES PARISH

Byers & Collingsworth's (was A. G. Beck et al's) No. 1 Hickman-Simmons Lbr. Co., 330 ft. S, 330 ft E.

(Continued on Page 63)

North Government Wells Pool Extended South; First Oil Production Found in Peters Field

By B. D. STEVENSON
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., July 10.—Smith & Storey and Wilkins Seacord's No. 3 Lundell in Survey No. 48, Duval County, a 3,200-foot extension south of the North Government Wells Pool, came in with very little swabbing, making dry gas for a few minutes and then started turning to oil. It has not been gauged but the pressure was about 800 pounds and it is believed it will make one of the best oil wells in the field. It will require an east offset by the Magnolia which owns all the acreage between the well and the nearest production.

However, McGinley & Bisbonnett's No. 1 Lundell, in the southeast corner of the same survey, is about a 10-bbl. well, the location being a half mile west of the north end of the original Government Wells Pool and the supposition is this well is an indication of a further extension of the North Pool to the south making an extension all told of about 1½ miles.

Doctor Edgington of Laredo is understood to have purchased this lease and will make a location in the northeast corner of his lease which will be a little south of the center of survey No. 48 and 150 feet from the east line and it will help to define the field and tell whether it is due for further extension.

No storage was on the lease available for the Smith & Storey and Seacord's No. 3 Lundell, which is 990 feet from the north line and 150 feet from the east line of Survey No. 48 and two 500-bbl. tanks and one gun barrel tank and a separator were being built over the week-end and the well will be put on production. North of this test and 330 feet from the north and east lines of the survey is No. 2 Lundell, a dry gas well. The position of this gas well and the new producer in connection with the other tests to the south seems to indicate that the west half of Survey 61 which is next east of No. 48 and entirely under lease to the Magnolia will all be productive and the south part of Survey No. 45 will all be productive and much of the east part of Survey No. 48. It looks like about 25 or 30 new locations will be proven, the locations being 660 feet apart.

Peters Pool

In the Peters Pool in Duval County Shasta and Highland, 1 mile northeast of the two discovery gas wells of the pool, have completed a 15-bbl. oil well, No. 4 Peters, drilled to a total of 2,494 feet and plugged back to a sand at 2,350 feet. This is the first oil production within that distance from the two gas wells. Windson Oil Co. completed its No. 1 Peters, a mile west of the two gas wells but in a shallower sand at 2,234 feet, for about 10,000,000 feet of dry gas. The field thus far consists of the two gas wells, the new producer a mile northeast and a shallower gas well a mile west and Brooklyn Oil Co.'s No. 1 Sutherland, 2 miles northeast, that came in at 2,458 feet, making about 30,000,000 feet of gas and spraying oil. This last test is in Survey No. 187 and R. F. Duggan has made location for his No. 1 Sutherland in the same survey about a half mile north of the Brooklyn test. No other announcements of activity had been made for that territory but it is safe to expect that with the showings had operations will continue to find an oil field. The territory is about 6 miles southwest of the Sarnosa Pool and about 2 miles northeast of the north line of the Kohler Pool and all of it along the Reynosa escarpment trend.

North Duval County

New activity in north Duval County includes Ralph Sturm and others' No. 1 Herbst, 1,650 feet from the east line and 330 feet from the south line of S.A.&M.G. Railway Survey No. 71, this being in a block in which Continental Oil Co. bought an interest on the guarantee of a 3,300-foot test, about 5 miles due east of the original Government Wells Pool and about 3½ miles west and a little south of Smith & Hunter's No. 1 Pena, that came in making gas at about 1,900 feet some months ago and for a time looked liked the opening of a new field.

Another new one is T. J. Conway and C. A. Campbell's No. 1 Hoffman in Survey No. 114, about 4 miles southeast of the Sarnosa Pool and 1½ miles west of where Plymouth Oil Co. recently drilled a deep test on the Hoffman ranch.

Four tests in McMullen County following the Government Wells trend are of especial interest. Schimmel's No. 2 Wulf topped the Pettus sand at 1,440 feet and was last reported around 1,600 feet; Schumway's No. 3 Shiner topped the Cole sand at 1,470 feet and has been having plentiful thickness of sands and was last reported below 1,500 feet. Darby Oil Co.'s No. 1 Sling is waiting for water below 1,900 feet and Boysen & Hotchkin's No. 1 Hagist with the top of the Cole sand at 1,428 feet is shut down at 1,803 feet to drill a water well.

Sun in Starr County

Sun Oil Co. made locations for two tests, one a half mile north and the other a half mile south of the discovery well completed a week ago in northern Starr County, and was beginning active operations at once. The discovery well is numbered now the No. 1-A Guerra. No. 1-B Guerra is 9,677 feet from the southeast line and 3,300 feet from the southwest line of Share H-14-B in the La Cuevitas grant and No. 1-C Guerra is 4,861 feet from the northwest line and 660 feet from the northeast line of the Sacatosa grant.

There is a little open acreage around the 15,000-acre block of the Sun but the Humble and Magnolia and some others have extra large blocks near the Sun block, the Magnolia having recently taken more than 4,000 acres in one block southwest of the Sun block.

Sun's well at 2,232 feet, making a considerable volume of gas and 15 bbls. of oil an hour on choke when opened, has centered a lot of attention on that district and there has been a little royalty trading but the landowners for the most part are pretty hard to trade with. Allen & Morris of Laredo are understood to have about a one-thirty-second under the 1,360-acre block the Sun's well is on, the price paid not reported.

Lease trading has been quite active in the Laredo territory generally, particularly in the hot spots in northern Duval County, and now in the Starr County territory and is due to be very active following the Reynosa escarpment north from the Sun well.

New Locations

There were 26 new locations announced the past week in Southwest Texas, making it one of the most active weeks in many months. This does not count a lot of locations made on paper and permits asked at Austin, due to fear that a dictator in Washington would make it difficult to get permits. Quite a number of operators have made locations covering their entire acreage due to that fear, and made locations there is no intention of immediately drilling.

H. A. Pagenkopf is already started on No. 1 Goeth in southern Bexar County, 1 mile south of Southton, where the magnetometer indicates a Serpentine plug. Sun Oil Co., Navarro Oil Co. and Humble Oil & Refining Co. have all made new locations at the north end of the North Government Wells Pool.

Clint Lanier has made location for his No. 2 L. D. Hill near Staples in northern Guadalupe County, 600 feet northwest of his No. 1, the new location being encouraged by showing of oil in No. 1 and in a shallow test of Humble Oil & Refining Co.

Balcones Fault Zone

Humble Oil & Refining Co.'s No. 1 Hardy in central Wilson County topped Serpentine at 4,812 feet and a test at 4,835-48 feet showed four joints of salty mud and a little oil and gas and at 4,891 feet it was still coring Serpentine. This is a little new and out of the path of Serpentine production which is nearer the Balcones fault. This is scheduled for an Edwards lime test and Austin chalk was thought to have been topped at 4,775 feet.

Of the other two deep tests to Edwards, Zavala Oil & Gas Co.'s No. 1 Gates in Zavala County was still fishing for 3,500 feet of drill pipe late in the week with total depth of hole still at 6,053 feet and Paton Brothers' No. 1-B Turner in northern Lee County finally got a drill stem test and it showed about 2,100 feet of fluid of which 300 feet was mud and 1,800 feet salt water.

Of the shallower drilling along the fault C. J. Webster Oil & Gas Co. treated No. 1-A McCrory to a second dose of acid and it has materially helped the production though definite returns were not reported.

C. W. Boler's No. 1 Kearney in southern Bexar County that made such a good showing in the Austin chalk at 1,257 feet when treated with acid, later bailed to the bottom and was making only a little oil. It was to be allowed to stand till the week-end and then bailed again and if it failed to do anything much will probably be carried to the Edwards lime, as was the first intention.

Moca Pipe Line

Duval Pipe Line Co. ran the first oil through the new line from the Moca Field in northeastern Webb County to the loading rack south of San Diego on the Texas Mexican Railroad Wednesday. The line is 4-inch and about 40 miles long and from the loading rack oil is shipped by rail to Corpus Christi.

Wildcat Operations in Southwest Texas

Week Ending July 8

ARANSAS COUNTY

Company, well, farm name, section and block—	Remarks:
Harry Traylor's No. 1 Dietzel, 330 ft. from SW and SE lines of 30-ac. tract in J. Smith Sur.	Steel derrick.

ATASCOSA COUNTY

A. Blume's No. 1 Shaw, 690 ft. from N line, 1,780 ft. from E line of 100-ac. tract in W. Farquhar Sur. No. 275	T.D. 1,628 ft.; S.D.
E. C. Burton's No. 1 Smith-Mowinkle, 2,100 ft. from N line, 200 ft. from W line of P. Perez Sur. No. 172	T.D. 60 ft. in shale; drlg.
O. W. Killam's No. 1 Seitz, 1,700 ft. from NE line, 5,150 ft. from NW line of Cruz Landin Sur. No. 45	T.D. 3,730 ft; drlg.

BASTROP COUNTY

Adams & Lyles' No. 1 Peter Goertz, 1,075 ft. from N line and 250 ft. from W line of 40-ac. tract in Andrew Mays Sur.	T.D. 2,319 ft.; drlg. shale.
J. E. Emanuel's No. 1 H. Klemm, 317 ft. from W line, 300 ft. from S line of tract in R. S. Teal Sur.	T.D. 263 ft.; standing.
Ca-Tex O. & G. Dev. Corp.'s No. 1 Harris, 150 ft. from NW line, 3,000 ft. from SW line of John Maxmillan Sur.	T.D. 2,237 ft. in shale; repairing rig.
Ca-Tex O. & G. Dev. Corp.'s No. 1 Pendergrass, 1,342 ft. from NE, 310 ft. from SE line of 130-ac. tract in Henry Warnell Sur.	Derrick.

BEE COUNTY

Nichols & Bruner's No. 1 Grover Heidenfels, 891 ft. to S line, 1,950 ft. to E line of 327-ac. tract survey, John Bryan, 4 miles S from Beeville	T.D. 5,000 ft; drlg.

BEXAR COUNTY

Amsden & Foster & Amsden's No. 1 S. A. Irrig. Farms, 600 ft. E of Kinney Road, 1,500 ft. N of Elm Creek	T.D. 1,200 ft.; standing.
O. N. Beer's No. 1 S. W. Kearney, 150 ft. from S and E lines of 38-ac. tract in S. C. I. Peres Sur.	T.D. 1,257 ft; bailed to bottom; may deepen.
R. S. Boling's No. 1 J. J. Appelt, 150 ft. from N and W lines of tract in M. Uriegas Sur.	T.D. 830 ft; resumed drlg. after installing rotary.
C. J. LeCompte's No. 2 R. Diaz	T.D. 1,210 ft.; drlg.
Austin Hull's No. 1 Classen, 268 ft. from W line, 2,500 ft. from S line of tract, 12 miles N of San Antonio	T.D. 1,810 ft; trying to run csg.
M. L. Howard's No. 1 James Watson, 500 ft. from W line, 2,000 ft. from S line, Sec. 16, B. Martinez Sur., 12 miles S from San Antonio	T.D. 2,535 ft; trying to put it on the pump.
C. J. LeCompte's No. 4 R. Diaz, 324 ft. NE from No. 1	T.D. 320 ft; S.D.
LaSalle Oil Co.'s No. 1 City Sewage farm, 150 ft. S of Rilling Road, 450 ft. W of NE cor. of tract in D. Bustillos Sur.	T.D. 55 ft.; setting surface csg.
Magnolia Pet. Co.'s No. 1 Duval County Ranch Co., 330 ft. from S and E lines of NE of Sur. No. 363	T.D. 2,232 ft; tested 7 joints oil in 15 min.; setting csg.
Motes-Campbell's No. 2 Pruitt, 300 ft. N of No. 1 on 187-ac. tract, McCullough County Sur., Blk. 4,299	T.D. 1,690 ft; drlg. in Bude.
H. A. Pagenkopf's No. 1 G. A. Goeth, 500 ft. from SE line, 600 ft. from SW line which is San Antonio River, Juan Montez Sur.	Spudded in.
O. L. Ray's No. 1 Thos. Dillon, 3,000 feet from NW line, 1,750 ft. from most southerly SW line of de Luna grant in southern part of county	T.D. 650 ft; standing.
J. Morgan Russell's No. 1 Brotse, 200 ft. W of No. 1, in Cordenas Sur.	T.D. 340 ft.; standing.

(Continued on Page 60)

California Operators Seek Code Amendments; New Drilling Program in Mountain View

By L. P. STOCKMAN
Staff Correspondent, California Fields

LOS ANGELES, Calif., July 8.—California operators, judging by the number of meetings being held, are not in unanimous accord with respect to the code of fair competition, and some recommendations are expected to materialize as a result of the general discussions under way. The proposed amendments to the code cover withdrawals from storage, disposition of current production and other general provisions. The California Oil Producers Sales Agency, by action of its board of directors, has tentatively approved the code with the stipulation that it is opposed to the lease-and-agency agreement and recommends several amendments. A special committee, composed of H. A. Bardeen, Rush M. Blodget, J. J. Doyle, William H. Geis and C. A. Johnson, has been appointed to consider the proposed amendment.

The tentative code provides "that withdrawals of crude petroleum in excess of current supply shall not exceed in the aggregate an average of 100,000 bbls. per day." Members of the Oil Producers Sales Agency propose to add at the end of this sentence the words "in the United States and in no single state shall the withdrawal from storage exceed 5 per cent of the current allowable rate of production in that state." This proposed amendment is particularly significant because it will have the effect of increasing California's allowable daily production under the code by preventing any unusually large drafts on storage. This is of importance to California companies that have eastern connections as holding companies in the East will not be able to call on their California affiliates for any considerable quantity of oil which would reduce petroleum stocks more than 5 per cent.

The special committee appointed by the Oil Producers Sales Agency has also taken exception to the provision that the allotments of production shall be made with due regard to the conservation of oil and gas and reservoir energy in oil fields. The committee recommends excluding the reference to reservoir energy in oil fields because this "sets up a new theory for California and is believed undesirable at this time." The special committee also recommends an amendment to provide for the disposition of oil in any field where operators agree to limit the production to any designated figure. The proposed amendment provides that "producers so agreeing and all other producers affected by such an agreement shall be permitted to deliver and market oil in ratable amounts to any existing market enjoyed by any of the producers."

Reduce Potential

Umpire Pemberton's production schedule for July reveals a reduction of 18,000 bbls. in California's potential and an increase of 2,500 bbls. per day in the allowable quota. The potential for July is 1,012,800 bbls. per day and the allowable 452,500 bbls. per day. The potential of the Kettleman North Dome Field was reduced from 270,000 bbls. to 250,000 bbls. per day, although no change was made in the allowable daily quota, which remains at 60,000 bbls. This substantial reduction in the Kettleman North Dome Field reduced the potential of San Joaquin Valley fields from 522,900 bbls. to 501,425 bbls. In the Coastal district, Santa Maria was given an additional potential rating of 1,550 bbls., which gives the field a new potential of 15,800 bbls. per day. Coincident with this increased potential, the allowable daily quota of the Santa Maria district was increased from 2,900 bbls. to 4,000 bbls. In Los Angeles Basin, the potential of the Dominguez Field, reflecting completions by the Union and Shell, was increased from 34,000 bbls. to 35,475 bbls., but no change was made in the allowable daily quota of 18,000 bbls. Completions in the Huntington Beach town lot area during the past month raised the potential of this field from 46,635 bbls. to 47,780 bbls. The potential of Long Beach and Playa Del Rey was also increased slightly.

Export shipments of crude and refined oil to Japan during the next 30 days are expected to approximate 1,500,000 bbls. The first of 17 tankers scheduled to lift cargoes for Japan between July 1 and August 15 left a few days ago with 83,148 bbls. of Kettleman crude loaded out of Estero Bay in the Japanese tanker Teiyo Maru. In addition to this export movement, California marketers will begin delivery of 6,328,950 bbls. of fuel oil to supply needs of the U. S. Navy in Pacific waters during the coming fiscal year. Sunset Pacific Oil Co. has just delivered 55,080 bbls. to the Navy tanker, Cuyama, and early next week will make two additional deliveries of similar amounts to the Cuyama and her sister tanker, the Brazos, for movement to Pugent Sound, where the Battle Force is on a summer cruise. Cost of the 6,328,950 bbls. of fuel oil to the Navy will be $3,880,410.50, or approximately 51 cents per barrel. The contracts for the delivery of this oil are held by the Union, Associated, Rio Grande, Sunset Pacific and Texas Co.

Mountain View

Developments during the past week indicate the probability that several additional wells will be started in the Mountain View Field of Kern County within the next 15 days and this work will lead to additional drilling. Bankline and Shell spudded in new wells during the week and Barnsdall and Long Beach Petroleum are rigging up one well each for immediate work. There are approximately 15 other locations staked in the Mountain View Field but rig material has not yet been placed on ground. Operators have been rather slow in getting under way in the Mountain View Field, due, perhaps, to the fact that several dry holes have been drilled in the immediate area and operators have become more cautious until the trend of the structure is ascertained. The topography of the Mountain View Field and the location of the fault which traverses the area render the selection of wells more difficult than where the surface evidence of structure was more pronounced.

Completion of the first commercial producer in the Mountain View Field by Dana Hogan last month resulted in considerable leasing in this general area. In addition to the transfer of several substantial leases in the Mountain View Field, operators have been rather active in the leasing of acreage in the Union Avenue and Comanche Point districts. The Union Avenue area is approximately midway between the Mountain View and Fruitvale Fields. Comanche Point is about 5 miles southeast of the Mountain View Field in the extreme southern end of the San Joaquin Basin. Both Union Avenue and Comanche Point justify exploration work because if two productive fields have already been discovered on the Bear Mountain fault zone, it is logical to assume that additional discoveries may possibly be made.

Huntington Beach

Several potential producers are expected to be finished in the Seventeenth Street town lot area of the Huntington Beach Field within 10 days. Wells scheduled for production tests include Doyle and McKeon's No. 1, Richrow Corp.'s No. 1 Severns, No. 1 Crawford of the Standard Oil Co. and the W. K. Co.'s No. 1 Huntington. Macroo Oil Co.'s No. 1 Smith is still the largest commercial producer in the Huntington Beach Field, as this well is producing 1,431 bbls. of exceptionally clean 25.4 gravity oil per day. Several additional rigs are being erected for early work in the Huntington town lot area and tentative plans call for immediate work. Recent spuds include Camroo Oil Co.'s No. 1 Smith, Simaroo Oil Co.'s No. 2 Morris and Wilshire Oil Co.'s No. 16.

Two wells were put on production in the Domingues Field of Los Angeles Basin during the week and both registered satisfactory production. Shell Oil Co. completed No. 44 Reyes, flowing 1,970 bbls. of clean 29.2 gravity oil per day from 4,408 feet, the hole having been finished with a 4¾-inch perforated liner and 4,240 feet of 2½-inch tubing. In addition to this well, Shell is drilling on No. 45 Reyes. Union Oil Co. recompleted No. 18 Callender after redrilling and deepening it to 5,031 feet and finishing the hole with a 6⅝-inch liner including 454 feet of perforated and 4,563 feet of 2½-inch tubing. This rejuvenated well was returned to production flowing 946 bbls. of clean 31.9 gravity oil per day. Union has one other well under way in the Dominguez Field and has staked location for No. 31 Callender. In the southern part of the field Sunrise Petroleum is drilling at 1,700 feet in No. 1 Dominguez, on property originally developed but subsequently quitclaimed by Marland Oil Co. due to edgewater encroachment. In the northern part of the field, Mutual Oil Co. has indicated its intention of drilling a new well on the 30-acre Carpenter property. Republic Petroleum has abandoned No. 3 Childs in this field and will start a new well from the grass roots, as officials of the company believe that they can develop commercial production by careful work.

San Miguelito

Developments in the San Miguelito Field during the past 10 days have been unfavorable due to the failure of Honolulu Consolidated to pick up either the first or second Grubb zones in No. 1 Valenzuela. This well, out on the south flank of the structure, has been devoid of any showings and the only hope of getting commercial production appears to lie in the possibility of finding a new deeper horizon. The possibility of success as far as deep exploration is concerned depends upon whether the oil zones in this field are conformable with those encountered into the prolific Ventura Avenue Field to the east. Chanslor-Canfield Midway Oil Co., which is drilling a well northwest of No. 1 Valenzuela, has suspended drilling operations pending the outcome of work on the Honolulu's project. No. 2 Grubb caused the geological department of Continental Oil Co. some little anxiety for several days as this well, approximately midway between No. 1 Grubb, a producer flowing 1,125 bbls. per day, and the Honolulu's No. 1 Valenzuela, a dry hole to date, was approximately 300 feet deeper than anticipated. No. 2 Grubb missed the first Grubb zone entirely but picked up the top of the second Grubb zone at 6,800 feet. Sufficient oil sand has been opened up to warrant the expectation of getting a commercial producer when the well is finished within the next 10 days. The failure of No. 1 Valenzuela of the Honolulu Consolidated to find even a stringer of oil sand confirms the opinion of several geologists that there is a fault between this well and No. 2 Grubb. Developments indicate the probability that the San Miguelito Field will be extremely narrow as the fault along the north flank paralleling the axis is fairy well estabished. Chanslor-Canfield Midway Oil Co. drilled through this fault out on the north flank

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	June 24		June 17			
Intercoastal-domestic—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	.....	.....	.....	.....	78,085	.....
Fuel oil	.....	.....	72,957	10,422	805,661	.....
Diesel and gas oil	.....	.....	.....	.....	1,085,064	147,070
Gasoline	70,807	10,115	540,464	77,209	4,357,319	4,202,082
Kerosene	.....	.....	.....	.....	496,994	154,372
Foreign exports—						
Crude oil	62,375	9,054	187,495	26,785	3,485,734	4,490,782
Fuel oil	141,771	20,253	180,914	25,845	3,670,437	4,499,239
Diesel and gas oil	207,653	29,665	26,851	3,836	1,763,836	1,325,977
Gasoline	303,429	43,347	.....	.....	3,029,686	4,622,151
Kerosene	.....	.....	.....	.....	822,813	1,244,821
Naphtha distillates	.....	.....	.....	.....	.....	75,425
Coastwise-domestic—						
Crude oil	128,091	18,299	.....	.....	4,456,650	6,966,205
Fuel oil	291,711	41,673	211,700	30,243	4,999,956	6,283,899
Diesel and gas oil	31,204	4,458	.....	.....	712,703	692,201
Gasoline	215,651	30,807	300,082	42,869	5,934,392	7,734,012
Kerosene	4,397	628	.....	.....	105,094	92,695
Naphtha distillates	.....	.....	.....	.....	27,651	.....

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Diesel and gas oil	.....	.....	.....	.....	280,531	151,220
Gasoline	.....	.....	.....	.....	500,966	430,185
Kerosene	.....	.....	.....	.....	482,430	.....
Lubricants	.....	.....	.....	.....	16,400	15,824
Foreign exports—						
Crude oil	.....	.....	21,150	3,021	999,943	707,651
Fuel oil	.....	.....	.....	.....	361,366	521,659
Diesel and gas oil	.....	.....	.....	.....	584,713	352,107
Gasoline	150,425	21,489	89,196	12,730	2,246,644	1,906,274
Kerosene	46,686	6,584	19,211	2,744	525,150	546,522
Lubricants	.....	.....	.....	.....	31,926	24,934
Coastwise-domestic—						
Fuel oil	177,422	25,346	86,860	12,409	1,668,842	1,441,315
Diesel and gas oil	.....	.....	.....	.....	166,162	228,984
Gasoline	.....	.....	54,809	7,830	1,640,231	1,742,215
Kerosene	.....	.....	.....	.....	73,619	65,756
Lubricants	.....	.....	.....	.....	2,751	.....

and in doing so penetrated the upper Grubb zone twice. Due to the abnormal deviation from the vertical in this well, the company drilled through the upper Grubb zone south of the fault and then hit the same zone north of the fault due to a downward displacement. This condition was not realized at the time and officials were at a loss to account for the well's failure to flow after having opened up such a large thickness of oil sand. The upper Grubb zone has not yet been found commercially productive due to insufficient gas pressure to result in a natural flow. Continental tried to produce from this horizon in No. 1 Grubb but subsequently gave up the attempt and deepened the hole to the second Grubb zone and completed the well flowing 2,500 bbls. per day.

Ventura Avenue

General Petroleum's No. 15-A Barnard, a projected deep zone test in the Ventura Avenue Field which is being deepened to the 57 zone, discovered by Associated Oil Co. about two years ago, is being cored solidly in order that the company may have a tangible record of subsurface conditions. This well has just passed the 8,000-foot level but still has several hundred feet to go before being given a production test. Shell Oil Co.'s No. 75 Taylor, finished last week, is still holding up in good shape as current production approximates 1,170 bbls. of exceptionally clean 31.7 gravity oil per day. The most interesting feature in connection with completion of this well is that it was finished in the upper zone at 5,602 feet and is producing from 232 feet of formation. Shell is gradually extending its development work westward in the Ventura Avenue Field and will soon start two additional wells as material is on ground for Nos. 77 and 78 on the Taylor lease. Associated is running four strings of tools in this field but will probably not chalk up any additional completions for another 30 or 60 days.

Bankline Oil Co.'s No. 10 on tideland permit No. 89 and Caroline Spalding's No. 7 on tideland permit No. 93 in the Elwood Field of Santa Barbara County are scheduled for completion within the next 15 days. Commercial production is expected to be developed in each well, and both will be finished in the present productive Vaqueros formation. Barnsdall-Rio Grande spudded in No. 9-A on tideland permit No. 88 several days ago and will probably have it ready for completion early in August. Operators in the Elwood Field are still restricting development work to Vaqueros and are holding back the underlying Seape until conditions improve. In the Goleta gas field of Santa Barbara County Standard is making good footage in No. 1 Chase & Bryce, which is being drilled on acreage adjoining the General Petroleum on the More ranch. Three new wildcats are being started in Santa Barbara County and this trio of tests should begin making hole within the next 10 days. A few miles outside of Santa Maria, A. N. Macrate has staked location for a new well to be drilled on the Rice property in Section 23-10-34. In the Purisima area Meganos Oil Co. is building rig for a test to be drilled in Section 28-8-34. At Point Concepcion, the Monterey Exploration Co. is building rig for a test to be drilled in Section 33-5-33. This new well is approximately 2,500 feet west of a duster drilled a few years ago on the Hollister property by the Western Gulf Oil Co. In the Santa Barbara Mesa Field, Charles Starke has recompleted No. 1 Nye pumping 25 bbls. of 18.6 gravity oil per day from 2,218 feet, the hole having been redrilled down to 2,090 feet.

Kettleman Hills

The Standard finished two new wells in the Kettleman North Dome Field during the week, although one is still cutting salt water. This well is No. 8-21-J, bottomed at 8,217 feet but subsequently plugged back to 8,130 feet. Standard put this well on a production test during the latter part of June but killed it June 28 to ascertain where salt water was entering the hole. The well was recompleted again July 2 flowing 2,200 bbls. of 37.1 gravity oil and 2,700,000 feet of gas, but it is still doubtful whether a satisfactory shutoff has been effected. This well apparently drilled into bottom water as a survey showed salt water testing 1,860 grains in the bottom of the hole. No. 25-35-J was a satisfactory completion as this well, bottomed at 8,451 feet and finished with a 6⅝-inch combination string carrying 912 feet of perforated, was brought in flowing 1,300 bbls. per day and subsequently built up to 2,750 bbls. per day. Kenda's well No. 21-1-P, finished during the latter part of June after being plugged back from 8,997 feet to 8,743 feet, is still showing an unusually large cut. This well is flowing 1,335 bbls. of 35.8 gravity oil and approximately 900 bbls. of free water. Dawn Petroleum Co. has staked location for a new well to be drilled on the Faust property in Section 36-21-17, but rig material has not yet been hauled in. Superior Oil Co. has completed No. 6 Huffman in the Kettleman North Dome Field after an extended period of corrective work made necessary because of water trouble. This well came in wet a few weeks ago following completion at 9,143 feet, but the present output, 3,160 bbls., is fairly satisfactory as the water content has been reduced to approximately 5 per cent. Superior landed a series of liners in this well, each liner consisting of several hundred feet of perforated pipe and then a section of blank pipe. Due to this complex mechanical condition, the company experienced considerable difficulty in ascertaining where water was entering the hole and then effecting the necessary remedial work. Operators in the Kettleman North Dome Field are of the opinion that Superior would have completed a much better well if the penetration had been limited to the upper part of the Ochsner zone.

Lost Hills-Belridge

Associated Oil Co., finding the Temblor wet in No. 1 Williamson, a projected deep test which the company is drilling in the Lost Hills Field of Kern County in conjunction with Richfield Oil Co., will not attempt to make a production test in this formation. Instead, the company will drill ahead, coring at frequent intervals, in order to determine the possibility of developing commercial production in the Kreyenhagen or underlying Eocene. In the North Belridge Field, Continental Oil Co. is preparing to drill ahead in No. 4 Result following the landing and cementing of a string of 13⅜-inch casing at 5,259 feet. This well is scheduled for completion in the Temblor formation. Associated is making a water test on No. 4 Result in this field to ascertain why the well suddenly developed such a large cut. The outcome is expected to be determined within a few days.

In the Devil's Den area, between the South Dome of Kettleman Hills and Lost Hills and a little to the west, Lincoln Petroleum Co. is building a larger derrick before resuming work on its well No. 12 in Section 10-25-18. This test was started as a core hole but the company subsequently decided to explore ahead. In the Gould Hills district, Hub Petroleum is rotating in brown shale at 6,700 feet, with the outlook dependent upon how much brown shale is encountered. General Petroleum, unable to recover the drill collar and bit lost in No. 1 Lovitt, a wildcat north of the McKittrick Field, has cemented the fish in place and will redrill past it. Lamont Oil Co. is abandoning its test in the Mount Poso Field of Kern County as a duster at 1,797 feet as the gray sand found on bottom was entirely barren. In the upper Kern Front district, Westport Petroleum has staked location for four new wells to be drilled on the Grimes lease in Section 32-27-27.

Richfield

Recent completions by Otis Hoyt and J. O. Seeple have stimulated interest in the Richfield district of Los Angeles Basin with the result that several additional locations have been staked during the past week. Otis Hoyt's No. 15, which came in a few weeks ago flowing approximately 1,500 bbls. per day from 3,832 feet, is still flowing 340 bbls. of clean 30.6 gravity oil per day. During the latter part of June, J. O. Seeple put his No. 1 Richfield on a preliminary production test and the well came in flowing 300 bbls. per day with cuts varying from 20 to 50 per cent. The well sanded up within a short time and preparations have subsequently been under way to overcome the handicap to production. Seeple has staked three additional locations on the Noll lease and will probably proceed with development work if he succeeds in developing commercial production in No. 1 Richfield. Four new wells are being started in the Coyote Field, although two of the quartet may be held back pending the outcome of drilling operations on the first two. In the Long Beach Field, Macmillan Petroleum Corp. has recompleted No. 2 Hawkeye, pumping 150 bbls. of 21.8 gravity oil cutting 20 per cent, after plugging back the hole from 6,090 feet to 5,230 feet.

W. A. SPENCER DIES

William A. Spencer, 67 years of age, once associated in the oil business with Harry F. Sinclair, died at his home at Indepencence, Kans., July 6.

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well, location—	S.T.R.	Depth	Status:
Palm Ridge Oil Co., No. 1 Palms, Los Angeles Co.	2- 2-15	5,699	sd. sh. drilling
Baldwin Oil Co., No. 9 Inglewood, Los Angeles Co.	7- 2-14	5,863	suspended
Kupfer, A. M., No. 1 Inglewood, Los Angeles Co.	17- 2-14	5,863	plugging
Pacific Gulf, No. 1 Athens, Los Angeles Co.	19- 2-13	6,094	suspended
Pacific Oil Inv. Co., No. 1 Wilmington, Los Angeles Co.	28- 4-13	3,640	pump 50 b/d
Sunrise Pet. Co., No. 1 Domingues, Los Angeles Co.	3- 4-13	1,401	sd. sh. drilling
Peoples O. & G. Co., No. 1 Compton, Los Angeles Co.	31- 3-12	rig	rigged up
Oakes & Mead, No. 1 Lyndwood, Los Angeles Co.	31- 2-12	4,940	cleaning out
Texas Co., No. 1 Pico, Los Angeles Co.	13- 2-12	2,406	hd. sd. drilling
Community Oil Co., No. 1 Montebello, Los Angeles Co.	34- 1-11	5,281	hd. sd. drilling
Universal Consd., No. 1 Montebello, Los Angeles Co.	5- 2-11	6,311	suspended
Andrus & Hutcheson, No. 1 El Monte, Los Angeles Co.	11- 1-11	1,792	suspended
Signal Pet., No. 1 Puente, Los Angeles Co.	14- 2-10	4,908	plug back
Willetts Pet., No. 1 Saugus, Los Angeles Co.	35- 5-16	2,074	suspended
Smith, J. A., No. 1 Saugus, Los Angeles Co.	32- 5-17	3,515	suspended
Alpha Oil Co., No. 1 Calabasas, Los Angeles Co.	22- 1-18	1,199	suspended
Hudson Pet., No. 1 Newhall, Los Angeles Co.	1- 3-16	1,565	cleaning out
Lester, C. T., No. 1 Newhall, Los Angeles Co.	17- 3-16	....	location
Ball, W. T., No. 1 Newhall, Los Angeles Co.	34- 3-16	3,582	suspended
Big Four Oil Co., No. 1 Newhall, Los Angeles Co.	32- 4-16	3,220	suspended
Marble, Willard, No. 1 Van Nuys, Los Angeles Co.	6- 2-16	2,000	suspended
Nuoil Co., No. 1 Newport, Orange Co.	29- 6-10	3,001	suspended
Mineral Expl., No. 1 Capistrano, Orange Co.	8- 8- 7	4,302	suspended
Saddleback Oil Co., No. 1 El Tora, Orange Co.	3- 6- 7	80	suspended
Placentia Dev. Co., No. 1 Placentia, Orange Co.	31- 3- 9	rig	rigged up
Brown, W. F., No. 1 Atwood, Orange Co.	26- 3- 9	....	material
Bartholomae Oil Co., No. 1 Coyote, Orange Co.	22- 3-10	....	location
Spindle Top Oil Co., No. 1 Salton Sea, Riverside Co.	25- 7-10	3,590	location
Keeley, H. J., No. 1 Corona, Riverside Co.	21- 4- 6	704	suspended
Great American Pet., No. 1 Chino, San Bernardino Co.	18- 2- 8	2,412	hd. sd. drilling
Great American Pet., No. 2 Chino, San Bernardino Co.	18- 2- 8	690	sd. sh. drilling
McCarthy, C. F., No. 1 Chino, San Bernardino Co.	14- 3- 6	403	suspended
Mason Oil Co., No. 1 Salton Sea, Imperial Co.	7-17-15	680	suspended

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well, location—	S.T.R.	Depth	Status:
Standard Oil Co., No. 1 Goleta, Santa Barbara Co.	20- 4-28	2,196	br. sh. drilling
Monterey Expl. Co., No. 1 Pt. Concepcion, Santa Barbara	32- 5-33	....	material
Duell, O. S., No. 1 Naples, Santa Barbara Co.	7- 4-29	5,132	suspended
Bolsa Chica, No. 1 Coal Oil Point, Santa Barbara Co.	tideland	4,089	suspended
Meganos Oil Co., No. 1 Purisima, Santa Barbara Co.	28- 8-34	tml.	building rig
Cuyama Oil Co., No. 1 Cuyama, Santa Barbara Co.	12-10-27	2,387	suspended
Woodrow Pet., No. 1 Rincon, Ventura Co.	4- 3-24	7,292	suspended
Indian Pet., No. 1 Rincon, Ventura Co.	tideland	3,434	plug 3,455 ft.
Bardeen Pet., No. 1 Fillmore, Ventura Co.	13- 4-19	2,801	sd. sh. drilling
Hancock Oil Co., No. 1 Fillmore, Ventura Co.	13- 4-19	1,622	to set pipe
Oil Ridge Oil Co., No. 1 Fillmore, Ventura Co.	1- 4-19	....	build road
Kneiper & Atha, No. 1 Bardsdale, Ventura Co.	7- 3-19	816	suspended
Williamson & Donaher, No. 1 Simi, Ventura Co.	36- 3-18	107	hd. sd. drilling
Honolulu Consolidated, No. 1 Miguelito, Ventura Co.	23- 3-24	7,071	hd. sd. drilling
Continental, No. 2 Miguelito, Ventura Co.	23- 3-24	6,950	oil sand
C. C. M. O., No. 3-A Miguelito, Ventura Co.	23- 3-24	4,166	suspended
Midland's Pet., No. 1 Ojai, Ventura Co.	9- 3-23	7,841	suspended
Struve, R. E., No. 1 Ojai, Ventura Co.	12- 4-22	....	location
Wilshire Oil Co., No. 1 Sulphur Mountain, Ventura Co.	20- 4-21	1,940	br. sh. drilling
Mosher, J. W., No. 1 Santa Paula, Ventura Co.	22- 4-21	1,250	br. sh. drilling
Petro Producing Co., No. 1 Timber Canyon, Ventura Co.	18- 4-20	4,747	plugging
Las Posas Pet., No. 1 Las Posas, Ventura Co.	22- 3-20	3,979	suspended
International Oil Dev., No. 1 Comejo, Ventura Co.	33- 2-20	2,770	fishing
Hub Pet., No. 1 Gould Hills, Kern Co.	22-29-21	6,653	br. sh. drilling
Purman, T. H., No. 2 Gould Hills, Kern Co.	27-29-21	335	suspended
General Pet., No. 1 McKittrick, Kern Co.	10-30-21	1,112	redrilling
Casa Mira Oil Co., No. 1 Belridge, Kern Co.	29-28-20	3,086	br. sh. drilling
General Pet., No. 1 Belridge, Kern Co.	30-28-21	8,260	suspended
Cumberland Oil Co., No. 2 Devils Den, Kern Co.	17-26-18	3,270	suspended
Holloway, A. S., No. 1 Devils Den, Kern Co.	11-25-18	1,848	suspended
Lincoln Pet., No. 1 Devils Den, Kern Co.	10-25-18	1,513	rebuild. rig
Hanna, Tom, No. 1 Devils Den, Kern Co.	25-25-18	3,516	suspended
Pyramid Hills Oil Co., No. 1 Devils Den, Kern Co.	24-25-18	3,974	suspended
Fowler, F., No. 1 Blackwell Corner, Kern Co.	15-26-19	3,170	suspended
Associated, No. 1 Lost Hills, Kern Co.	2-26-20	4,669	gr. sd. drilling
Howells Bros., No. 1 Round Mountain, Kern Co.	32-28-29	375	cemented
Seale, Fred, No. 1 Edison, Kern Co.	5-30-29	....	location
Caravel Pet. Co., No. 1 Edison, Kern Co.	19-30-30	1,801	redrilling
White, L. L., No. 1 Union Avenue, Kern Co.	6-30-28	....	location
Shell Oil Co., No. 2 Mountain View, Kern Co.	29-30-29	499	sd. sh. drilling
Hogan, Dana, No. 2 Mountain View, Kern Co.	29-30-29	....	location
Bankline Oil Co., No. 1 Mountain View, Kern Co.	4-31-29	1,416	sd. sh. drilling
Barnsdall Oil Co., No. 1 Mountain View, Kern Co.	31-30-29	mtl.	building rig
Barnsdall Oil Co., No. 2 Mountain View, Kern Co.	32-30-29	....	location
Petrol Prod. Co., No. 1 Mountain View, Kern Co.	29-30-29	....	location
Long Beach Pet., No. 1 Mountain View, Kern Co.	29-30-29	rig	rigging up
Jergins Trust, No. 1 Mountain View, Kern Co.	29-30-29	....	location
Mohawk Pet., No. 1 Mountain View, Kern Co.	30-30-29	5,958	suspended
Mohawk Pet., No. 2 Mountain View, Kern Co.	30-30-29	mtl.	building rig
Comanche Oil Co., No. 1 Comanche, Kern Co.	15-32-29	....	location
Badger Oil Co., No. 1 Wheeler Ridge, Kern Co.	31-11-19	2,620	lay wtr. line
Gatton & Luethe, No. 1 Madera, Madera Co.	22-10-17	2,390	suspended
Russ Oil Synd., No. 1 Kingsburg, Fresno Co.	20-12-11	367	sd. sh. drilling
Bergman, Harry, No. 1 Kingsburg, Fresno Co.	12-12-11	4,148	cemented
Graham & Loftus, No. 1 Raisin City, Fresno Co.	20-15-18	5,780	suspended
Emerich Oil Co., No. 1 Mendota, Fresno Co.	35-13-13	3,567	sd. sh. drilling
Western Gulf, No. 1 S. P., Fresno Co.	3-17-15	mtl.	building rig
Hogan, Dana, No. 1 Joaquin Ridge, Fresno Co.	28-20-16	5,516	br. sh. drilling
Kent & McDonald, No. 1 Carrizo Plains, San Luis Obispo	3-32-22	3,830	suspended
Paso Robles Oil Co., No. 1 Edna, San Luis Obispo Co.	27-27-11	4,191	suspended
Guess, E. B., No. 1 Corcoran, Kings Co.	7-21-21	6,197	suspended
Brown, A. M., No. 1 Cloud, Kings Co.	10-23-19	1,205	recemented
Brown, A. M., No. 2 Cloud, Kings Co.	10-23-19	501	sd. sh. drilling
Dudley Dome Oil Co., No. 1 Dudley Ridge, Kings Co.	9-23-20	3,012	suspended
Knudsen & Schmidt, No. 1 Reef Ridge, Kings Co.	36-23-17	6,873	suspended
Magee & Stone, No. 2 Alpaugh, Kings Co.	33-24-22	3,149	cemented
Dil-Harp Oil Co., No. 1 Delano, Tulare Co.	25-24-26	1,210	suspended
Cardinal Oil Co., No. 1 Los Banos, Merced Co.	26-10- 9	rig	rigged up
Merced O. & G., No. 1 Chowchilla, Merced Co.	2- 9-16	rig	rig suspended
Na-Pa Oil Co., No. 1 Griffith, Napa Co.	7- 8- 3	3,742	br. sh. drilling
Oakdale Oil Co., No. 1 Oakdale, Stanislaus Co.	5- 2-10	4,815	hd. sh. drilling
Pacific Northern Oil Co., No. 1 Guinda, Yolo Co.	23-12- 3	4,201	gr. sd. drilling
Buttes Oilfields Co., No. 1 Marysville, Sutter Co.	35-16- 1	2,721	gas—shut in
Buttes Oilfields Co., No. 2 Marysville, Sutter Co.	34-16- 1	3,200	sd. sh. drilling
Tehama Pet. Co., well No. 1, Glenn Co.	4-22- 5	4,814	gr. sh. drilling
Orland Synd., No. 1 Orland, Tehama Co.	31-23- 3	3,748	suspended
Marker Drlg., No. 1 Orland, Tehama Co.	21-25- 5	3,030	suspended

Mile West Extension in Tomball Field Is Likely; Increase in the Allowable in Conroe District

By NEIL WILLIAMS
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., July 10.—Two additional wells are in process of completion in the new Tomball Field of northern Harris County, one of which promises an extension of production over a mile west. The west extension, Humble Oil & Refining Co.'s No. 1 G. W. H. Martens, lower W. Hurd Survey, is in sand at 5,517-38 feet, this being a little higher than the discovery well, completed June 19. Humble's No. 1 Fritz Kobs, west offset to the discovery well, is in the pay at 5,554-70 feet. Both look for good wells.

Completion of Magnolia Petroleum Co.'s No. 1 Rudel, Joseph House Survey, 2 miles north of the discovery well, as a dry gasser was looked upon by many operators the past week as disappointing, but considering the highness of the well, this was not to be unexpected. This well, which had showings in sand at 5,446-59 feet, deepened to sand at 5,508-28 feet after drilling plug and with 86 feet of 5-inch screen in the hole came in estimated at 20,000,000 feet, of dry gas through a three-eighths inch choke, gauging 1,840 pounds pressure on the tubing and 800 pounds on the casing. After tests on various chokes it has been shut in and is standing with pressure of 1,550 pounds on tubing and 1,150 pounds on casing.

With these exploratory wells giving some indication of the lay of the land, active drilling of the field is expected to get under way shortly. Continental Oil Co. has started drilling in its No. 1 Petrich (Agnes Theis), east offset to the Magnolia gasser. Humble Oil & Refining Co. has started drilling in its No. 1 Reid, Chauncey Goodrich Survey, as an east extension test from the discovery well. The latter company also has made location for two additional tests, No. 1 Amiel Doege, and No. 1 Emil Schultz, both in the upper C. Goodrich Survey, the former being over a mile northwest of the discovery well, and the other a little over a half mile due north of the discovery.

Completes 8-Inch Line

Humble Pipe Line Co. completed its 8-inch line from Tomball to a connection with its main line the past week and now the first production is moving out of the field.

In the Bammel district, southeast of the Tomball Field, C. & C. Drilling Co. and McPhail's No. 1 Erhardt, C. H. Delesdenier Survey, has been given up as a dry hole after a drill stem test showing salt water. Bottom of the hole is 6,486 feet. This has cooled off to some extent the play from Tomball in that direction.

H. H. Sloan's No. 1 Peden, John Brock Survey, east of the Tomball district, and which instigated a new lease play in that area when it indicated a decided reversal in finding the Hockleyensis well above normal dip, tested brackish water in a drill stem test in the Cockfield sand at approximately 5,600 feet. Although this has turned out somewhat of a disappointment in view of the anticipation of a twin field for Tomball, arrangements are being made to carry the hole on down to 6,500 feet in exploration of possible lower producing horizons.

Indications of the extent of the new Greta Field in Refugio County are given in the completions of two more wells, making a total of three for the field. E. H. Buckner's No. 1 O'Brien, approximately 1,200 feet south and a little west of the discovery well, came in flowing at the rate of 65 bbls. of pipe line oil per hour with 30 feet of screen at 4,405 feet. At latest report it was flowing 1,470 bbls. daily through an eleven-sixty-fourths inch choke with pressure of 1,000 pounds on the tubing and 1,500 pounds on the casing. Alamo Oil Co.'s No. 1 O'Brien, approximately 2,300 feet northwest of the discovery well, came in flowing 740 bbls. daily through two one-quarter inch chokes with 40 feet set in the pay at 4,402 feet. Although these wells stretch over a distance of about three-quarters of a mile all have found the sand at the same depth within a few feet, the discovery well being in the sand at 4,404 feet. This would indicate a large fairly flat structure.

The third blowout for the field was suffered during the week when W. L. Pearson's No. 1-A Wilson Heard got out of control while drilling at 390 feet. However, after blowing wild for a time the 20-inch surface pipe which had been run in the hole dropped 120 feet and apparently shut off the gas as the well is now dead. This blowout is 750 feet northeast of the same operator's No. 1 Wilson Heard, which blew out several weeks ago and cratered. Greta Oil Corp.'s No. 2 O'Brien, southwest of the discovery well, is still blowing wild and burning. It blew out shortly after the first Pearson blowout.

Conroe Proration

The change by the Railroad Commission in the basis of proration at Conroe to one taking into consideration potentials has resulted in an increase in the allowable and production of that field. Under the new program, effective Friday, the program of a well will be based 50 per cent on potential and 50 per cent on acreage. On the 462 wells on 9,028 acres in the field at the time the order went into effect, the allowable figures out 72,685 bbls. for the field against the 60,000-bbl. allowable previously.

Although there was a noticeable increase in the number of completions at Conroe during the week, field operations there continued routine, most of the new wells being confined to inside acreage.

Grimes County

Petroleum Southwest Co.'s No. 1 Greer, wildcat in the Pat O'Connor Survey, Carlos prospect, Grimes County, which last week gave indication of a new field by its completion as a gasser in sand at 2,750 feet, is standing shut in. It is probable the well will be killed and the hole deepened in exploration of possible lower producing horizons. Coch and associates' No. 1 Haferkamp, Samuel Fulton Survey, Yarborough prospect, southeast of Navasota, also in Grimes County, is to be deepened from the present total depth of 3,519 feet, where it tested salt water. Pure Oil Co., which originally held the block, farming it out to the present operators, has contributed bottom hole money to see the test carried through the Cockfield. The bottom now is in the top of the Cockfield.

Colorado County

Plymouth Oil Co. has been attempting to put its No. 1 Ream, discovery oil producer of the Garwood district, southern Colorado County, back on production by blowing with gas but so far has been unsuccessful. The well, located in Section 47, I.&G.N. Survey and a mile southwest of Coyle-Concord's wet gasser, was completed several weeks ago in a sand at 6,203 feet making 17 bbls. an hour of pipe line oil but later went to water and then went dead. If the gas injection fails to restore the well the hole will be plugged back to shut off the water.

Chambers County

Mills & Jones have reached contract depth in their No. 1 Gau, John Roberts Survey, southeast of Anahuac, Chambers County. The test now is shut down waiting orders with bottom at 5,025 feet. This test is on a geophysical prospect worked by Pure Oil Co. and is being drilled on a "farm-out" proposition.

Harris County Wildcats

In addition to the development now going on in the Tomball-Huffsmith area, Harris County is being one of the most actively wildcatted counties on the Gulf Coast at this time. Of particular interest was the location made the past week by Hamill Drilling Co. for No. 1 Clara W. Walker in the Charles Sage Survey, this being the first test on a very recently checked geophysical prospect just west of Houston and adjoining one of the most fashionable residential sections. A 5,000-foot test is obligated. Several of the major companies hold acreage on the prospect to assist in the drilling of the test.

In the extreme northeast corner of the county near Huffman, Huffman Dome Development Co.'s No. 1 House, Mary McGruder Survey, Hale prospect, late in the week was drilling at 2,608 feet in tough gumbo. Gholson & Parsons have a rig up for a wildcat test on the W. E. Freeman tract in Section 57, Block 2, H.&T.C.R.R. Survey, 7 miles northeast of Katy, west of Harris County. Lavender & Smith are making hole in No. 1 Herman Teske, J. Duckworth Survey, Cypress area. At Genoa, Jack Schultz and associates' No. 1 Woodburn, August Whitlock Survey, is drilling below 4,600 feet. Other wildcats in the county are standing.

Hull Field

What looks like a southeast extension of the Hull Field was seen late in the week with the completion of Miramar Oil Co.'s No. 1 Phoenix. Initial flow was estimated at the rate of between 70 and 80 bbls. an hour from a sand and shale at approximately 4,500 feet. R. S. Sterling, former governor of Texas, and one of the organizers of the Humble Oil & Refining Co., is associated with the Miramar company.

Line to Livingston

Contract has been let to the Polk County Engineering Co. of Livingston for the construction of a 10-car loading rack and two 5,000-bbl. steel tanks at Goodrich and the laying of a 4-inch pipe line to the Livingston Field, a distance of 5 miles. The line will serve as an outlet for the production of Dick Schwab, who at present has one producing well and is drilling a second. Production now is being taken by Shell Pipe Line Co. which has a branch to the field from Goodrich, where connection is made with the company's trunk line to the coast.

Hardin County

Danciger Oil & Refining Co.'s No. 1 Hooks, south flank test at Batson, Hardin County, after a number of mechanical difficulties, has drilled to a total depth of 4,698 feet where it is in sand showing oil and is reaming preparatory to setting for a test. At present there is no flank production at Batson, one of the old producing domes.

Gulf Coast Fields and Wildcats

Week Ending July 8

Company, farm and location—	Remarks
DAMON MOUND—BRAZORIA COUNTY	
Intercoastal Oil Co.'s No. 11 Wisdom, 350 ft. E of No. 6, Blk. 51, Lot D, A. Durst Sur.	No report.
Sinclair Prairie Oil Co.'s No. 31-A Bryan, 155 ft. N, 45 deg. E of SW cor. of Blk. 28, Masterson Subd., and 140 ft. S, 45 deg. E, A. Darst Sur.	T.D. 7,586 ft; standing.
MANVEL—BRAZORIA COUNTY	
The Texas Co.'s No. 2 Davis, 300 ft. out of S cor. Lot 42, H. N. Little Sur.	Drlg. shale and lime 4,030 ft.
The Texas Co.'s No. 3 Ewing, H. N. Little Sur., 250 ft. from E line, 400 ft. from S line of Lot 30	Sand S.O. 3,870-89 ft; cmtd. 9⅝-in. csg. 3,819 ft.
BARBERS HILL—CHAMBERS COUNTY	
Mills Bennett Prod. Co.'s No. 1-C Barber, Henry Griffith League, 100 ft. E, 30 ft. N of SW cor. of tract	Spudded.
Mills Bennett Prod. Co.'s No. 3-A Wilburn (W.O.), Henry Griffith League	Heaving shale 5,981 ft.; abd.
Mills Bennett Prod. Co.'s No. 5-A Wilburn (W.O.), Henry Griffith League	Rigging up to deepen 4,467 ft.
Mills Bennett Prod. Co.'s No. 3 Kirby (W.O.), 645 ft. E and 40 ft. S of NW cor. lease	Set 146 ft. of 7-in. (O.D.) screen, 5,194 ft.
Sinclair Prairie Oil Co.'s No. 9 Wilburn (W.O.), Henry Griffith League	Set 64½ ft. of 5-in. screen 5,124 ft.
Sinclair-Prairie Oil Co.'s No. 14 Wilbur (W.O.), Henry Griffith League	T.D. 4,690 ft.; sidetracked 3,685-3,802 ft; set 3 joints of 5-in. screen 3,775 ft; comp. 450 bbls., 5% wtr.
Sun Oil Co.'s No. 12 Wilburn (W.O.), Wm. Hodges Sur.	Pulling screen to deepen 4,472 ft.
Sun Oil Co.'s No. 17 Wilburn, Henry Griffith League, 150 ft. W of No. 6 and 50 ft. S of N line	Rigging up.
The Texas Co.'s No. 8 Wilburn (W.O.), Henry Griffith League	Set 30 ft. of 4¾-in. screen 5,047 ft.; swbd. S.W. and some oil; rigging to pump.
Texas Gulf Prod. Co.'s No. 11-B Kirby, Henry Griffith League, 411 ft. from S line, 473 ft. from W line of tract	Set surface csg. 71 ft; T.D. 83 ft.
Yount Lee Oil Co.'s No. 20 Chambers County, Wm. Bloodgood Sur., 350 ft. from NW line and 50 ft. from SW line of lease	T.D. 4,782 ft.; sidetracking in sand and lime 3,792 ft.
Yount Lee Oil Co.'s No. 21 Chambers County (W.O.), Wm. Bloodgood Sur.	Sand and lime 2,249 ft; cmtd. to 2,154 ft; sidetracked and drlg. sand and lime 1,974 ft.

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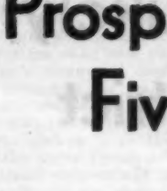
Prospects for Additional Work in Central West; Five Completions in the Kentucky Districts

By GEORGE A. WHITNEY
Staff Correspondent, Central West Fields

FINDLAY, Ohio, July 10.—In the Lima Field McPheron and others' No. 4 on the Frank Fox farm, Section 11, Hopewell Township, Seneca County, was completed with an initial of 2 bbls. from 1,528-37 feet. Dewey Oil & Gas Co. is drilling No. 2 on the Hattie M. Martin farm, Section 33, Clinton Township, same county.



Wyandot County continues to lead in active development in the Lima Field, with 13 wells drilling and one rig up. Eight of the drilling wells are in Crane Township, where fairly good results are being obtained. The oil and gas in Wyandot County comes from the Trenton Rock and much of that at this time comes from Crane Township. Keiner and others are near the Trenton in No. 3 on the Louis Brandt farm, Section 34, where some of the best producers are being found. Upper Sandusky Oil & Gas Co. is due to bring in No. 2 on the H. & H. Saltsman farm, Section 28, shortly. Keiner and others have a rig on the Gotleib Seiler farm, Section 34, and will spud in a few days. Ferdell and others are drilling on the Mary E. Sampson farm, Section 20, same township, and McPheron and others are starting a test on the A. E. Myers farm, Section 20, while Crane Township Oil & Gas Co. is drilling around 500 feet on the Delbert Smith farm, Section 33. Bienn and others are nearing the top of the Trenton on the W. H. Reihle farm, Section 13, Salem Township, also in Wyandot County.

CENTRAL OHIO

The Central Ohio Field is busy and prospects are for additional activity. Seven completions were reported for the week. In Stark County, Brendel Producing Co.'s No. 1 on the Isaac and Elmer Markley farm, Section 9, is a very fair gas producer from the Clinton lime at 4,528-61 feet. Cunningham Natural Gas Co. struck a fair gas well in No. 1 on the Joe Herman farm, in Section 17, same township, at 4,527-52 feet. Brendel Producing Co. made a location on the A. and L. Stephens farm, same section. White and others have a rig on the Forest Hill Cemetery property, in Section 20, same township. Boettler and others have a rig on the Peter Henry farm, Section 17, same township.

In Ashland County, Stewart and others' No. 7 on the David Horn farm, Section 4, Lake Township, shows for 5 bbls. from the Berea sand.

In Knox County, Union Township, Ohio Fuel Gas Co. has a location for No. 1-5,736 on the Ambra C. Biggs farm.

In Summitt County East Ohio Gas Co. has a rig in for No. 1 on the J. H. Wertz farm, Section 31, Green Township, and is nearing the pay sand in No. 2 on the John Wenhart farm, Section 20, same township.

In Licking County, Wehrle Gas Co.'s test on the G. W. Kreager farm, Lot 37, Hopewell Township, was dry in the Berea sand from 663-77 feet. McClay Brothers' No. 2 Fern Smith farm, Section 17, Fallsburg Township, is close to 1,000 feet.

In Athens County, Ohio Fuel Gas Co.'s No. 1-5,730 on the Rex Armstrong farm, Section 24, Berne Township, is a light gas well.

In Holmes County, Stoltz and others report a light gas well on the Joe E. Beech farm, Section 6, Berlin Township, at around 3,600 feet.

In Fairfield County, City Natural Gas Works has rig in for No. 3 on Andrew Ellinger farm, Section 9, Pleasant Township.

In Portage County, McClay Brothers are drilling on the Louis V. Miller farm, Section 19, Freedom Township.

In Belmont County, Fulton & Co. are drilling No. 2 on the Ida Thompson and others' farm, Section 6, Union Township. King and Tanner are drilling No. 2 on the Charles McLaughlin farm, Section 36, Somerset Township.

In Guernsey County, McLaughlin and others' test on the George R. Perry farm, Section 11, Adams Township, is a gas well at 1,123 feet. H. P. Muhlbeck & Son hav a rig on the A. C. and F. Carlisle farm, Section 8, Madison Township, same county.

INDIANA

There are indications of more development work in the old Indiana Field in the eastern portion of the State, which in the early nineties was a great producing section. In Huntington County, Huntington Township, Fred Brandt drilled a dry hole on the William F. Clark farm, NE of Section 35, and a gas well on the Huntington County poor farm, SW Section 26, same township. Same party has a rig on the Julius Werling farm, NE Section 27, also in Huntington Township. In Delaware County, in the old Indiana Field, George W. Brummer is drilling northwest of Royerton, in Hamilton Township.

In Knox County, O. A. Thayer and L. J. Lloyd are drilling on the Elzie Hall farm NE of Section 14, Busseron

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Fair Well in Washington County, Pennsylvania; Thirty Wells Are Drilling in West Virginia

By STAFF CORRESPONDENT

PITTSBURGH, Pa., July 10.—Pennsylvania grade crudes were again increased 10 cents in the lower fields, bringing the price of oil run into the South West Pennsylvania Pipe Lines to $1.37; into the the lines of the Eureka Pipe Line Co., $1.32, and into the lines of the Buckeye Pipe Line Co., $1.17. Corning grade run into the lines of the Buckeye Pipe Line Co. was increased to 80 cents. In the upper country, the posted prices of Bradford district, and Allegany district crudes were raised 13 cents, making the new price for both $1.70. This advance followed increases in western crudes.

Another fair well was completed in the pool in Amwell Township, Washington County, Southwest Pennsylvania. Raymond Orrill completed his No. 3 on the Martha Hazlett farm in the Injun sand, about 2,950 feet deep, and as soon as the sand was tapped, the well practically drilled itself in. It produced 190 bbls. the first 17 hours. The second day it produced 160 bbls. and the third day 150 bbls. After the fluid level is reduced, the tools will be sent deeper into the sand.

This well brings the total of fair producers in this pool to eight. Five of them were completed by Raymond Orrill, who drilled the first well on the Walker farm, two by the Union Gasoline & Oil Corp., and one by the Carnegie Natural Gas Co. In the immediate vicinity, the Wise Oil & Gas Co. completed a gas well good for about 250,000 feet a day. But one dry hole has been recorded.

Drilling in this section at the present time, the Carnegia Natural Gas Co. is casing in its test on the Mrs. Francis Menzer farm at a depth of 2,698 feet. Jess Moore & Co. are down 600 feet on the John Parker farm.

In the remainder of the lower eastern fields completions were scarce due to the absence of any new work in the trough of the depression. Since that time new work has increased in all the lower fields and an increasing number of wells are nearing the sands. Total completions for the past week were two producers, two gas wells and two dry holes, all sections represented.

SOUTHEAST OHIO

In Southeast Ohio there was one gas well completed and two dry holes listed. In Holmes County, Cable and Frye completed a test on the Peter Miller farm in Berlin Township in the Clinton sand at a depth of 4,060 feet. It is a gas well estimated at 250,000 feet a day with no showing of oil.

In Ashland County, A. G. Talbot and others drilled No. 6 on the David Horn farm of 80 acres, SE Section 4, Lake Township. The Berea sand was dry to a depth of 570 feet. In Meigs County, NW Section 33, Salisbury Township, Joe Rubin and others drilled a test on the Henry Schreiber farm through the Maxon sand to a depth of 640 feet. It also was dry.

In Coshocton County, Section 17, Perry Township, the Wiser Oil & Gas Co. is drilling a test on the Petterson and Crawford lease. In Clark Township the Mehowa Oil & Gas Co. is down 3,500 feet on the Sol Haun farm. In Perry Township the Preston Oil Co. is starting a test on the C. D. Harris farm in Section 17.

In Licking County the Wehrle Co. is building a rig on the G. W. Kreager farm, Lot 37, Hopewell Township.

WEST VIRGINIA

But one well was completed in West Virginia during the week although there are over 30 wells actively drilling and others either waiting on casing or shots. This well was a fair gasser and was the test of the Pure Oil Co. on the Lafollette, Robson and Pritchard tract C in Sherman district, Boone County. It was completed in the Weir sand at a depth of 2,831 feet and is good for in excess of 800,000 feet a day.

In Calhoun County, F. F. McIntosh has reached 5,398 feet in a deep test on the Charles and John Davis farm in Lee district. At present the well is shut down and the shale is being tested for gas.

Drilling in West Virginia

There are several new locations in West Virginia. In Calhoun County, Lyle S. Ayers and others have made a location on the Kate Garritson farm in Sherman district. In the same district, Poling and Mollahan have a location on the Almetta Wilson farm. H. B. Scott has a rig standing on the Bell and Wilson lease. On the F. M. White farm, this district, Poling and Mollahan are fishing for the tools at 1,835 feet, and on the J. Lawson Kelly farm Creed Barker and others are down 1,780 feet.

In Washington district, Calhoun County, Grant Fowler and others have made a location on the Orval Postlethwait farm and have reached 1,525 feet on the O. W. Grove farm. In Sheridan district, Ira Haught and others are drilling at 1,275 feet in No. 3 on the Alva Elder farm. In Center district, Starcher and Richards are down 550 feet on the Chenowith and Edman lease.

On Lambs Rune in Murphy district, Ritchie County, the King Knob Oil Co. is rigging up on the H. C. Allen farm. Deem and Overton are rigging up on the R. A. Overton farm, same district. Bode and Stoffle have reached 550 feet on the John Coyle farm. In this district, the Lewis Gas Co. and the Litton Gas Co. have a rig standing on the Conly heirs farm. In Clay district, Frank Finley and others are rigging up for a second test on the Bohem and Neeley lease, and the Hinton Farm Oil Co. is rigging up for No. 3 on the L. E. Robinson farm.

In Clay County, Godfrey L. Cabot is down 1,560 feet on the Bell Creek Land Co. tract in Pleasant district. In Kanawha County the same operator is down 600 feet in No. 41 on the A. D. Huntington farm. Pure Oil Co. is drilling on the Chelyan Coal Land Co. tract in Cabin Creek district. In Union district, there was no additional report of the test of B. F. Best and others on the H. A. Casdorph and others lease.

In Putnam County, the United Fuel Gas Co. is shooting its No. 4,378 on the J. L. Ashworth farm in Curry district at a depth of 3,780 feet. In Logan County the West Virginia Gas Corp. is shut down testing the Salt sand in its No. 7 on the Guyan Merch Co. lease.

There are still eight wells drilling in Cabell County, and two more rigged up to start. Ross Campbell is rigged up on the Julliette Enslow farm, Guyandotte district, and the Fairfax Gas Co. is rigged up on the United Fuel Gas Co.'s lot. In the same district the status of the wells drilling is as follows: Petry and Borders, down 1,100 feet on the Shelby Johnson farm; Graham Gas Co., 1,250 feet on the S. P. Hager farm; C. C. Wolfe and others, down for cable at 2,320 feet on the T. H. Tanner farm; Swanson and Martin, down for casing at 1,485 feet on the J. T. Tubert farm; Adkins and Marsh, drilling at 2,100 feet on the

C. M. Watts farm; Copeland Gas Co., at 1,900 feet on the E. N. Waugh farm. In Union district, G. W. Shipes and others are at 1,150 feet on the Callie Massey farm.

In Wayne County the West Virginia Gas Corp. is drilling at 1,300 feet on the Henry Adkins farm, in Union district. In Ceredo district, Cisco Drilling Co. has reached 2,100 feet on the Samson B. Bailey farm.

In Monongalia County, Martin Oil & Gas Co. is drilling its second test on the N. P. Fetty farm in Clay district deeper and has reached 1,852 feet. In Manningtон district, Marion County, Victor Oil & Gas Co. is down 300 feet on the Charles H. Freeland farm.

SOUTHWEST PENNSYLVANIA

One additional well was completed in Southwest Pennsylvania during the week. In Green Township, Greene County, Jesse L. Garard & Co. completed No. 9 on its own No. 3 farm in the Dunkard sand at a depth of 960 feet. The oil streak was at 891 feet. It will make about a 2-bbl. pumper.

In Richhill Township, Greene County, Earhart & Co. have reached 900 feet on the Clara Baldwin farm. In Dunkard Township, 1 mile north of the state line and 1½ miles west of the Monongahela River, Convex Glass Co. has made a location on the Sam Morrison farm. The test of Fred Garrison on the Frank South farm was a dry hole in the Dunkard sand at 796 feet. This farm is near Mapleton.

In Fayette County, Carnegie Natural Gas Co. is rigging up on the H. H. Wells farm in Jefferson Township.

Central West Fields

(Continued from Preceding Page)

Township. In Harrison County, James Mahan is drilling near the town of New Middleton. In Randolph County, Henderson Brothers are drilling on the Alwilda Smiley farm, SE Section 4, Jackson Township.

In Porter County, V. S. Hollingsworth and others are drilling on the Kenneth Wolf farm, Section 26, Portage Township.

In Perry County, George Porter and others' No. 1 on the Anthony Kraus farm, SW Section 36, Anderson Township, was dry at 531 feet. Same parties are drilling on the C. Splater farm, NE Section 32, same Township.

In Spencer County, Packard Oil Co. abandoned No. 4 on the Lee Carlton farm, Section 11, Huff Township, and Finley Black is drilling on the J. J. Stroble farm, SE Section 20, Carter Township, same county.

In Vigo County, Prairie Township, Pierson, Yeager and others' test on the Dr. John Wilson farm, SW Section 8, is a light gas well at a depth of 1,100 feet.

In Gibson County, Ohio Oil Co. abandoned Nos. 5 and 7 on the Sallie Cunningham farm, along Highway's Nos. 116 and 117, Washington Township, and abandoned Nos. 2 and 3 on the S. R. Cunningham farm, on MD 117, same township. Same company abandoned Nos. 1 and 2 on the Mary E. Watkins farm, SE Section 9, Patoka Township, same county. Indiana Southwestern Gas Corp. is drilling No. 3 on the G. C. Sampley farm, SW Section 23, Columbia Township, also No. 3 on the E. F. and L. W. Gudgel farm, SW Section 22, same township.

In Pike County, C. C. Taliaferro, Jr., drilled a dry hole in No. 2 on the Thomas Inman farm, NE Section 26, Washington Township, at 1,187 feet. Bell, Trusler and others are drilling No. 5 R. N. Craig farm, NE Section 19, same township. Indiana Southwestern Gas Corp. is drilling No. 1 Dicey Keith farm, NE Section 15, and Bell and others are drilling No. 1 John Shey farm, SW Section 17, same township. In Monroe Township, same county, Ohio Oil Co. abandoned Nos. 1, 3, 5 and 7 W. D. Mason farm, NW Section 35, and No. 1 Dello Wilson farm, NW Section 6, same township.

ILLINOIS

Only one completion was reported from the Illinois Field, Walter Cline's No. 1, 400 feet from the north line and 660 feet from the east line of the A. D. Hildreth farm, NE Section 27, Lafayette Township, Coles County, a dry hole, at 1,000 feet.

In Bond County, Old Ripley Township, Alspaugh, Mason & Ashby are drilling on the Martha E. Files farm, Section 22.

KENTUCKY

Five completions were reported from the Kentucky Fields. In Daviess County, Johnson Oil & Refining Co.'s No. 1 well, 750 feet from the south line and 250 feet from the east line of the W. A. Haynes 100 acres, 2 miles northwest of Whitesville, showed a very light gas volume at a depth of 860 feet.

In Ohio County, B. & B. Oil Co.'s No. 9 well, 950 feet from the north line and 750 feet from the east line of the James Greer farm, in the Whittaker Pool, produced an initial of 10 bbls. at a depth of 671 feet.

In Warren County, Hardcastle Field, Murphy and others' No. 1 on the Elec Butler farm, showed only a very light gas volume at 535 feet, and is reported a dry hole.

In Allen County, Scottsville Field, H. B. Bastrus and others' test on the Otis Center farm, was dry at 357 feet, and Foss Work and others' No. 1 on the Rush Brothers farm, in the Mount Ariel, Field, same county, was also dry at 533 feet.

Increased Activity in Central Michigan; Six Completions Reported in Week

By GEORGE A. WHITNEY

MOUNT PLEASANT, Mich., July 10. Operators are getting busy in the Central Michigan Field and reports are that there will be no letup during the next few months. Six completions were made during the week, five oil producers with combined initial of 1,240 bbls., and one dry hole. The best producer was Pure Oil Co.'s No. 1 well, 990 feet from the south line and 330 feet from the west line of the C. L. Baxter farm, SW SW Section 15, Porter Township, Midland County, reported 450 bbls. initial. Same company's No. "A"-1 well, on the Anna Corning farm, W half NE NE Section 34, Greendale Township, same county, is reported with an initial of 200 bbls. Talbot Oil Co.'s No. "C"-4 well, on the State Michigan land, SE SE SE Section 10, same township, had an initial of 240 bbls. Daugherty & Markey's test, 990 feet from the south and west lines of the Mrs. M. B. Forbes farm, NE SW SW Section 22, Porter Township, Midland County, had an initial of 100 bbls. In Jasper Township, Midland County, Pure Oil Co.'s No. 1 well, 1,000 feet from the north line and 660 feet from the east line of the Frank Sinif farm, N half NE Section 2, produced an initial of 250 bbls.

In Newyago County, C. W. Teaters' test, 990 feet from the north line and 330 feet from the south line of the Grace M. Hatch farm, SE NE NE Section 8, Brooks Township, came in a dry hole.

Completion of the four wells brought the total in the Porter Township, Midland County Field, to 23 since the Otway discovery in February this year. Production has ranged from 40 bbls. a day to an estimated 5,000 bbls. a day. No test drilled since February in Porter Township has been abandoned. Variations in the depths of formations and in production have indicated "spotty" conditions. Because of this oil men frequently make the statement that "every test is a wildcat." Water also has proved a hazard. Many tests have had to be plugged back because of going into water. Few have escaped some water conditions. Despite this, Porter Township has been proved a prolific area and probably has been only scratched yet. Its productive limits are far from defined and there seems a good likelihood the field will extend some 7 miles on a southwest trend from the Yost wells in southern Greendale Township, Midland County. Although 23 wells have been completed and about 25 others are drilling, development probably has yet to see its peak.

Scattered Tests

At least a dozen tests are being drilled in the east and southeast districts of Central Michigan. Probably at no time have as many interesting tests from the standpoint of possible extensions or new pools been drilling. Six are in outpost areas of Porter Township and will give valuable information on the extent of the new Porter Pool. The discovery well (Michigan & Pacific-C. W. Teater's No. 2 Otway) is in Section 22, about a mile northwest of the two dry holes drilled several months prior to the discovery. However, offsetting one of the dry holes is a producing well so the dry holes may not determine that point as the end of the producing structure to the southeast. Commercial wells have been struck as far north as a mile (Pure's State-Porter in Section 15), while Gordon Oil Co.'s No. 1 Muscott in Section 17, 2 miles northwest, shows a long extension. Between the two tests Sun Oil and Strange Oil & Gas companies have developed commercial wells in Section 16.

Mammoth Petroleum Corp.'s test in the northwest corner of Marcillers farm, NW NW SE Section 23, Vernon Township, Isabella County, brought in with an initial of 100 bbls. a day, was given an acid treatment bringing the production to 500 bbls. a day. It was estimated the well flowed 5,000 bbls. a day of which 10 per cent was oil, the balance brine.

Drilling Permits

Seven permits were issued as follows: To the Lawson Oil & Gas Corp. for No. "A"-2 in the northeast corner of the Arlinda and Arville Thayer farm, NE NE SW Section 25, Porter Township, Midland County; to M. D. and R. A. Wells, for No. 1, 330 feet from the south and west lines of the George H. McCann farm, SW SW SE Section 25, Porter Township, Midland County; Strange Oil & Gas Co. for No. 4, 330 feet from the south line and 990 feet from east line of the Sam Walley farm, SW SE SE Section 16, Porter Township, Midland County; and for No. 5, 990 feet from the south line and 330 feet from the west line of the Sam Walley farm, NW SW SE Section 16, Porter Township, same county; to W. Hunter Atha, for No. 1, 330 feet from the north and east lines of the Harry Bond farm, NE NE SE Section 20, Greendale Township, Midland County; to McClanahan Oil Co. for No. 1 990 feet from the south line and 330 feet from the east line of the A. F. and Cecile M. Breu farm, NE SE NE Section 20, Porter Township, Midland County; and to George W. Giffert, for No. 1, 990 feet from the north line and 330 feet from the west line of the Paul D. Wampler farm, N quarter W half SW Section 9, Greendale Township.

Field Pickups

Pure Oil Co., according to reports, will drill a gas test in Fremont Township, Isabella County, during the summer. Recently this company has been blocking acreage in that district. Leasing also has been active in the south Shepherd area by other interests.

Stoddard & Darke set a stake in the northeast corner of the James M. S. Emery farm, NE NE NE Section 21, Porter Township, Midland County, and in the same township McClanhan Oil Co. set a stake on the Breu farm, Section 20, NE NE SW, same township. Edward Stewart and others made a location for No. 1, in the northeast corner of the H. Carter farm, NW NW NE Section 21, Porter Township.

In Isabella County, Mellon-Pollock Oil Co. is drilling No. 1 in the northwest corner of the John Stough farm, NW SE SW Section 23, both being in Vernon Township. In Denver Township, same county, Elmer E. Brehm, trustee, is drilling 330 feet from the north line and 990 feet from the west line of the Charles M. Smith farm, NE NW NW Section 23.

Joseph Malloy and others are drilling 330 feet from the north and west lines of the Clarence J. and Carl Bauer farm, NW NW NW Section 7, Richland Township, Saginaw County.

Eddie Self and others made a location for No. 1 test, 930 feet from the north line and 980 feet from the east line of the Adam Skrotski farm, in Section 15, Jordan Township, Antrim County. This will be a very important test.

James M. Taggart and others' No. 2 well on the Robert Fish farm, SW NW SE Section 10, Austin Township, Mecosta County, is reported good for 5,000,000 feet of gas from 1,455-58 feet. No. 1 on the same farm was drilled some time ago with around 4,000,000 feet.

Kansas Fields

(Continued from Page 50)

a machine. Harwood Oil Co.'s No. 1 Olson, NW cor. NE NE Section 11-25-8, is a machine. R. Mendenhall's No. 3 Gilroy, SE cor. NW Section 5-25-13, was drilling at 500 feet. Shull Drlg. Co.'s No. 2 Hinchman, NW cor. SW Section 17-24-13, was drilling at 700 feet. Hallis and others' No. 1 Frankhauer, NW cor. SE Section 23-22-11, was abandoned at 1,876 feet.

Harvey County

Frost and Study's No. 4 Martens, SW cor. NW SE SE Section 19-22-3w, is a rig. Skelly Oil Co.'s No. 3 Schmidt, SW cor. NW NW Section 17-22-3w, is a rig. Darby Oil Co.'s No. 3 Schmidt, SE cor. NW NW Section 17-22-3w, is a rig. The Texas Co.'s No. 2 Andrees, NE cor. NW SW Section 8-22-3w, is a rig. Shell Pet. Corp.'s No. 3 Nikkel, SE cor. SW SW Section 8-22-3w, is a rig. Lario Oil & Gas Co.'s No. 1 Wall, NE cor. SW SW Section 4-22-3w, is a location. Murray and others' No. 2 Dyck, NW cor. NE SW Section 88-22-3w, is a location. Sinclair Prairie Oil Co.'s No. 3 Neufeldt, SE cor. NE NE Section 19-22-3w, is a location. Same company's No. 1 Neufeldt, NE cor SE Section 18-22-3w, made 215 bbls. from 3,406-58 feet. Mid-Kansas Oil & Gas Co.'s No. 3 Duerkson, SE cor. SW NE Section 19-22-3w, made 711 bbls. from 3,422-48 feet. Hollow and others' No. 2 Schmidt, NW cor. NE cor. NW Section 17-22-3w, made 512 bbls. from 3,421-54 feet. Murray and others' No. 1 Dyck, SW cor. NE SW Section 8-22-3w, old well drilling deeper, cleaning out.

Kingman County

D. R. Lauck's No. 1 Church, SE cor. SW NE Section 10-28-6w, is a location.

Rice County

Ramsey and others' No. 1 Hedges, NE cor. SE Section 31-19-9w, is a rig. Same operators' No. 1 Linville, SE cor. NE NE Section 31-19-9w, is a location. Ramsey and others' No. 1 Ira, SW cor. NW NW Section 32-19-9w, made 744 bbls. from 3,244-70 feet.

McPherson County

Spencer and others' No. 3 Neufeldt, SE cor. SW SE Section 16-21-3w, is a location. Continental Oil Co.'s No. 1 Tipton, NW cor. SW NE Section 2-20-3w, is a location. Dickey Oil Co.'s No. 1 Gray, NW cor. SE Section 2-20-3w, is a rig. Helmerich and Payne's No. 2 Russell, SE cor. NW NW NE Section 23-19-2w, made 20,000 feet of gas from 650-64 feet. Youker and others' No. 4 Grattan, NW cor. SW Section 24-19-2w, made 137 bbls. from 2,934-3,002 feet.

Sedgwick County

Cavell and Davis' No. 1 Keary, SW cor. NE SW Section 15-25-1, is a location.

Oil Show on Craig Dome, Moffat County, Colo.; New Test Drilling at 860 Feet in Nebraska

By TOLBERT R. INGRAM
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., July 10.—One 25-bbl. pumper was completed in Eddy County, New Mexico, and drilling in Hobbs Pool is down to one well. One location was made in the Maljamar area and the Bloomfield district, in the northwestern part of the state is showing an increase in activity. Rocky Mountain Gas Co.'s No. 1 Eberle, on the Craig Dome, Moffat County, Colorado, drilling for gas at 2,800 feet, had a show for 50 bbls. of light green oil at 1,278 feet. Texas Co. released a location on the Iles Dome. Negotiations are pending for another test in northeastern Colorado and an oil man suggests a geophysical survey of that area by the state government.

Wyoming had no completions and no new locations.

Ohio Oil Co.'s No. 9 Souders, on Dry Creek, in Montana, is estimated good for 1,000 bbls. per day. One new location was made in the Cut Bank Field.

A new test is drilling in the Chadron district in Nebraska.

NEW MEXICO

Lea County

Shell Petroleum Corp.'s No. 4-B McKinley, SW NE SW Section 20-18-38, the only active operation in the Hobbs Pool, is drilling plug after cementing 9⅝-inch at 1,615 feet with 75 sacks. It topped anhydrite at 1,595 feet.

Carter and Continental Oil companies' No. 1 State, C NE NE Section 28-22-35, South Eunice area, did not spud as expected on account of insufficient supply of water. The first water well drilled made 850 bbls. A second water well is being started.

Cranfill & Reynolds' No. 4 State, C NW NE Section 2-21-33, in the Lea area, is setting 12½-inch on bottom at 975 feet, and Texas Co.'s No. 3-A Lynch, C NW NE Section 34-20-34, is drilling at 3,350 feet in lime and anhydrite.

E. B. Guess' No. 1 Conditt, C SW SW Section 12-25-36, Jal area, is shut down at 530 feet with rotary partly rigged.

Eddy County

Flynn, Welch & Yates' No. 64 State, SE NE NW Section 10-19-28, Artesia area, was completed at 2,190 feet, total depth, corrected back from 2,290 feet, after being shot with 80 quarts at 2,110-35 feet. It is on the pump and making 25 bbls. per day.

A tentative location has been staked in the Maljamar area in Grayburg Oil Co.'s No. 4 Burch, SE cor. NW Section 19-17-30. Western Drilling Co.'s No. 2-A Green, C SW NE Section 29-17-29, Jackson area, is drilling at 2,220 feet in lime and is expected to be an early completion. Ralph Spearow and others' No. 1 McClellan, SW NW NE Section 22-22-23, western Eddy County, is drilling at 2,895 feet in gray lime.

Guadalupe County

Anton Chico Development Co., Ltd.'s No. 1 Anton Chico grant, is drilling at 2,587 feet in shale.

San Juan County

Kutz Canon Oil & Gas Co.'s No. 1 Day, SW cor. Section 20-28-10, Kutz Canon district, is fishing at 4,085 feet.

The Bloomfield district, in which small production of high gravity crude is encountered at shallow depths, is showing increased activity. One well was plugged and abandoned in McCoy & Phillips' No. 1, SW cor. Section 27-29-12, at 600 feet. Same firm's No. 1 Bergin, SW SE NW Section 21-29-11w, spudded June 5 and is drilling at 200 feet. Frank Valleley and others' No. 1 Motto, SW SE Section 15-29-11, spudded June 5 and is drilling at 100 feet. Rio Grande Development Co.'s No. 2 Lanier, SE cor. NW Section 9-29-11, is bottomed at 1,771 feet and fishing for 6⅝-inch casing.

Gobernador Oil Co.'s No. 1 Likens, SW NE SW Section 12-29-9w, Blanco district, is fishing for tools at 2,258 feet.

R. R. Burke's No. 2 Government, C NW SW Section 18-21-13w, Stoney Butte, is shut down at 546 feet and probably will be abandoned.

DeBaca County

Landowners Oil Co.'s No. 1 State, SW cor. NE Section 16-1s-27, Buffalo Creek, is shut down at 5,860 feet.

Catron County

R. C. Bailey's No. 1, SW SW Section 34-2n-16, Quemado district, is bottomed at 357 feet and fishing for tools. The 6⅝-inch is at 260 feet.

Valencia County

Western Natural Resources Corp.'s No. 2 San Clement grant, SW cor. NE Section 5-6n-1e, De Chaves district, is drilling below 4,700 feet in brown shale.

COLORADO

Moffat County

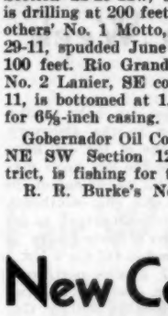
The Rocky Mountain Gas Co.'s No. 1 Eberle, SE SW SE Section 9-6n-91, Craig Dome, the second well to be drilled on that structure, is reported to have encountered a show of about 50 bbls. of light green oil at 1,278 feet. At this depth it was shut down for orders as the hole is flowing water from higher up. One estimate puts the water at 25,000 bbls. per day and another at 10,000 bbls. This well is about 1,500 feet west of No. 1 Bogenchultz, the discovery well, which was drilled by Ohio Oil Co. The Bogenschultz well also had a flow of 25,000

(Continued on Next Page)

New Completion in North Turner Valley Area; Talk of Play in Areas in the Border Section

By VICTOR LAURISTON
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, July 8.—In the North Turner Valley, Model Oils' No. 2, LSD 16, Section 22-20-3w5, got a measured flow of 5,500,000 feet of wet gas at a depth of 5,924 feet. This porous horizon is approximately 400 feet in the lime. The potential naphtha recovery is around 50 bbls. a day. A gas flow estimated at 1,000,000 feet a day was previously reported at 5,843 feet, and drilling is continuing at about 5,950 feet. The test may be carried 100 feet farther into the lime in the hope of picking up another porous section with additional production. Pressure builds up to around 500 pounds in about 15 minutes. The well is drilling in its own oil, and new lines have to be put in frequently. Model's No. 2 is about a half mile north of Model's No. 1, LSD 8, same section, finished at 5,915 feet, about 115 feet in the lime, with about the same gas flow but a light crude production that reached a peak of about 190 bbls. a day. Model's No. 2 was started as Anaconda Oil Co.'s No. 1, the Anaconda company retaining a royalty interest.



Central Turner Valley

In the Central Turner Valley Field, New McDougall-Segur Oil Co.'s No. 6, LSD 11, Section 12-20-3w5, got a show of light crude at 2,530 feet. Drilling is continuing below 2,640 feet, with the more promising light crude horizon of the McDougall-Segur sand as an objective. No. 6 is logging a little deeper than No. 5, LSD 14, same section, which got the sand with a fair commercial light crude production at 2,880 feet.

McLeod's No. 1 is now being cleaned out to restore production. The major operation of 1932 was the deepening of McLeod's No. 4, which last fall reached a record depth for Canada of 7,755 feet after drilling completely through the Madison lime. It is to be carried deeper as soon as work on No. 1 is completed.

Mar-Jon Area

Drilling is increasingly active in the Mar-Jon-Merland area. Mar-Jon Oil Co.'s No. 2, LSD 10, Section 28-18-2w5, is spudding in. The sixth active test in Section 28-18-2w5, is being started by Publix Oil & Gas Co. in LSD 8, on a 40-acre tract south of Mar-Jon-Freehold's No. 1 producer and east of Pacalta Oils' No. 1 drilling test. The test will be drilled to the Dalhousie sand with standard tools, and continued to the porous horizon of the deep lime with rotary equipment. Publix Oil & Gas Co. officers are: President, George W. Yoxall; secretary-treasurer, W. G. Agnew; directors, W. Dobson, Harold Ewing, W. H. Evely.

Sunburst-Mid-Royal Oils' No. 1, LSD 14, is waiting for completion of water well before spudding in.

In the adjacent Section 33-18-2w5, Sterling Pacific Royalties' No. 1, LSD 1, is reported spudding in. Location is immediately north of Section 28-18-2w5.

Hunter Valley Test

In the forest reserve area west of Olds, Hunter Valley Oil Co.'s No. 1 McLaren, Township 31-10w5, is drilling below 950 feet. Campbell M. Hunter, president, and Robert J. McLean, vice president, recently inspected the operations which were then making rapid headway, the drill making 100 feet of new hole in 24 hours. Mr. Hunter anticipated a change in formation within 200 or 300 feet with good possibilities of gas being encountered. Dr. T. A. Link, geologist for Imperial Oil, Ltd., is reported making a survey of the area including the McLaren anticline on which the Hunter Valley Oil Co. controls approximately 24 square miles.

Twin River Operations

In the border area southeast of Lethbridge, Nordon-Roney's No. 2 Twin River, LSD 11, Section 2-2-20w4, is making new hole below the cement set at 3,777 feet. Parco Oil Co.'s No. 1 Twin River, about a half mile farther south, got its oil show just below the Ellis-Madison contact at 3,890 feet, and No. 2 Twin River is somewhat higher on structure.

Red Coulee Test

In the Montana end of the Red Coulee Field, John Finn, drilling contractor, is moving in a rotary outfit from the Wainwright Field of East-Central Alberta for a new test for Monalta Oil Co. on the Pat Buckley ranch, SW Section 1-37n-4w. Rotary tools have not been used extensively in Montana outside the Dry Creek area.

Prospects in Border Fields

If deeper drilling results in completion of Santa Rita and Sweeney's No. 1 Lee Jacobson, NW NW Section 23-37-5w, North Cut Bank, the border section of southern Alberta will likely get a play. So far, the only commercial oil field of any importance in the border area is the Red Coulee Field, which has five or six producing wells with an aggregate output of around 100 bbls. a day. Oil has, however, been definitely found in three other areas. In the Skiff Field, Devenish Petroleums' No. 1, LSD 13, Section 29-5-14w4, finished at 3,160 feet some years ago, developed a fair production of heavy asphaltic crude. Three other wells were drilled to the same horizon, one getting production, but for lack of a convenient market for this quality of crude, no shipments have been made in recent years. On the Twin River structure southeast of Lethbridge, Parco Oil Co.'s No. 1 Twin River, LSD 16, Section 34-1-20w4, last year got a show of high grade crude at 3,890 feet just below the Ellis-Madison contact, production dropping from 10 to 2 bbls. a day. Farther north and west, Hudson's Bay Oil & Gas Co.'s No. 1 Keho, on the Keho Lake structure, LSD 2, Section 17-11-22w4, got a small show in the same horizon and has a pumping production around 6 bbls. a day from a stray sand in the Benton at 3,770 feet. A second test on the Twin River structure is being completed by Nordon Corp. and C. A. Roney.

A test by Mayland Southern Oils, Ltd., on the Canadian end of the international Reserve Dome structure got some gas, but no oil. There are a number of po-

tential structures extending from Montana into Alberta in the wide area between the foothills and the Saskatchewan boundary; while farther north potential structures exist on the Alberta side alone, including the Beaver Dome and Chin Coulee structures. Gas has been found on the Rogers-Imperial and Dead Horse Coulee structures east of Coutts, and a number of proven gas fields exist farther north.

Drilling in this area was fairly active a few years ago, but financial conditions have restricted wildcatting. Canadian Western Natural Gas Co. of Calgary is understood to have mapped a number of potential gas structures in the southern part of the province. The recent wildcatting, though limited in extent, has indicated the Ellis-Madison contact as a promising horizon over an extensive area.

Athabaska Test

In the Athabaska area, northern Alberta, Athadome Oils' No. 2, SW Section 15-66-23w4, is reported cleaning out in preparation for a shot. The test got a show of 13 gravity black crude with asphaltic base at 1,650 feet in a 50-foot sand in the Grand Rapids formation. The well is reported to have bailed 20 bbls. on a 24-hour test and it is expected the shot will double this production. The company plans to drill 12 additional wells to the same horizon and treat the production in a small topping plant, the output being sold in the Athabaska district where prices for gasoline and other petroleum products are high. Analysis shows 40 per cent gasoline and tractor fuel content, 7 per cent lubricating stock and 53 per cent asphalt.

Alberta Geological Work

Work has been started by the Geological Survey of Canada in the Alberta fields by Dr. G. S. Hume and Dr. R. T. D. Wickenden. A considerable portion of the season's work will be devoted to the area adjacent to Hunter Valley Oil Co.'s No. 1 wildcat, in the forest reserve west of Olds. This portion of Alberta has never been covered by government geologists, though last year work was carried on from a point north of the Ghost River structure. The Monarch structure, east of Hunter Valley, attracted attention some years ago, while south of a line between Hunter Valley's No. 1 and Cartier-Majestic's No. 1 there are several promising structures.

The structures in this general area include the Chapin or Silver Creek structure, south of the Monarch structure. Both Imperial Oil, Ltd., and independent companies have holdings on the Grease Creek structure, which lies between the Little Red Deer River and Fallen Timber Creek. Imperial geologists have been over this structure, and the company may later do some drilling. North of Ghost River, the Little Coulee structure is also a potential oil area, while one test has been drilled to some depth on the Wildcat Hills structure.

The general area under survey is in the foothills northwest of Calgary and west of Olds.

Unity Valley Test

In the Unity Valley area, western Saskatchewan, Prairie Crude Oil & Gas Co. is reported to have started work on a test for gas. Gas shows were encountered in this area some years ago in drilling by the Unity Valley Oil Co. of Calgary, but were shut off and the tests drilled deeper for oil. The gas horizon was around 1,450 feet.

Ontario Operations

In the Petrolia Field, Lambton County, Ontario, C. H. Barrett has sold the Houston and Barclay oil property to George C. Bryson of Petrolia. The property comprises 50 acres and contains a number of good oil wells, and is immediately north of property already owned and operated by Mr. Bryson. The latter returned to Petrolia from the Borneo fields about two years ago and last year purchased the J. E. Armstrong oil property.

Oil operators are reported leasing acreage farther west, in the vicinity of Port Lambton, on River St. Clair. Acreage is chiefly in Sombra Township, and on several occasions drilling in this area has been mooted. Some years ago a shallow well supplied gas to the Roman Catholic parish, and at Baby's Point the Menton store had its own gas well. Oil seepages on the St. Clair at various points have led to the belief that shallow oil exists in this area, which is south and west of the Petrolia and Oil Springs Fields.

In the Mosa Field, Middlesex County, George Willets of Bothwell has finished a shallow test for a Detroit syndicate in NW cor., Lot 8, Concession 7, Mosa Township. The test finished at 409 feet, with a flush production of 24 bbls. a day. No. 2 test has been located 1,200 feet north of No. 1.

In the old Tilbury Field, Kent County, Ralph Dawson's No. 4, Tackaberry farm, Lot 2, Concession 15, Tilbury East Township, is reported to have finished with a measured production of 43,000 feet a day. The test got a small show, around 5,000 feet, at 1,230 feet, and after deepening to 1,510 feet without increasing the production the original show was shot. A rock pressure of 400 to 450 pounds is claimed, as against a normal pressure in other parts of the field of 225 pounds, and this is thought to indicate possibilities of further production in the immediate area. The rig is being dismantled, and a new test may be drilled.

Quebec Deep Test

In the province of Quebec, an important deep test is being drilled jointly by the Canadian Seaboard Oil & Gas, Ltd., and the Alberta Gas & Fuel Co. The location is at Ste. Angele de Laval, Nicolet County. It is down 5,110 feet and apparently got the Trenton limestone at 4,930 feet. At three horizons near the bottom of the well, gas was encountered in small quantities, and later some salt water came up. Location was made as a result of information secured from other deep tests drilled south of the St. Lawrence River, and the gas showings, though small, are regarded as somewhat more encouraging than in the earlier deep tests, especially as the well has not yet reached a conclusive depth in the Trenton.

Test for Petrolia Field

An interesting new test in the old Petrolia shallow pool in Lambton County, Ontario, is being started by Fred Edwards on the old Macmillan estate oil property. Mr. Edwards is drilling a 10-inch hole to the lime. It is claimed that with the decrease in pressure a more satisfactory oil production will be secured by the large hole than by the small holes normally drilled in the shallow fields.

Kent County Drilling

In the Dover Field, Kent County, Ontario, Raleigh Development Syndicate's No. 1, Stevens farm, Lot 2, front concession, Dover Township, is reported drilling at 3,150 feet, after getting the two top pays of gas in the Trenton limestone. It got the Trenton at 2,885 feet. The two pays aggregate between 85,000 and 125,000 feet a day, and the third and main pay is expected with a little further depth.

In the old Tilbury Field, Salina Oil & Gas Co.'s No. 3, Hope farm, is drilling below 400 feet, 1,000 feet north of Salina's No. 2, completed some weeks ago as Glenwood Syndicate's No. 2.

In the Olga Field, Raleigh Township, F. H. Stover & Son are moving in a rig for Olga Oil & Gas Co.'s No. 6, on the Larke farm, Concession 9, 800 feet south of Olga's No. 1 discovery well on the Seaman farm in Concession 8, Raleigh.

Olga Oil & Gas Co. has practically finished stringing 4-inch pipe for the new line to deliver gas from the Olga wells in Raleigh Township to the Southern Ontario Gas Co. main transmission line. The 3½-mile line will tie into the main line at a point south of Charing Cross.

In the Merlin section of the Tilbury Field, Dominion Natural Gas Co. has cleaned out and shot an old gasser on the Hall farm south of Merlin, increasing the flow to 300,000 feet a day or better.

Twin River Gas Flow

The joint test of Nordon Corp. and C. A. Roney on the Twin River structure southeast of Lethbridge, LSD 11, Section 2-2-20w4, struck a gas flow, estimated 10,000,000 feet a day, slightly below 3,871 feet. The test is being deepened for crude oil. Test is about a half mile north of Parco Oil Co.'s No. 1 Twin River, LSD 16, Section 30-1-20w4, which showed for a small oil production at the Ellis-Madison contact. The Nordon-Roney test opens an important new gas field close to Lethbridge and indicates possibilities of an important oil field between that city and the international boundary.

Rocky Mountain Area

(Continued from Preceding Page)

bbls. of water at 1,210-40 feet. In fact it cut about nine water sands before it got into the gas formation. The first gas in the discovery well was at 2,732 feet and it was completed at 2,807 feet, barely in the top of the third gas sand. After it blew for a few days, it also made a show of oil, and recent reports are to the effect that it is now making considerable oil.

The Texas Co. announced location this week for its No. 1 Iles Development Co., 438 feet south and 220 feet east of NW cor. Lot 7, Section 23-4n-92, on the east side of the Iles Field. This puts it approximately in the SE NW of the section. It will be drilled with a rotary and contract has been let to Olson Drilling Co. It will go only to the Sundance.

Mountain Fuel Supply Co.'s No. 2 Florence Wilson, C NE NE Section 22-12n-100, Hiawatha area, is coring at 3,473 feet, and its No. 1 Wheeler, SE NW NW Section 30-12n-100, is rigged and ready to spud. Same company's No. 1 Hatch, C NW SW Section 9-11-101, Sugarloaf district, is bottomed at 1,657 feet and fishing for cutterheads.

Jackson County

Ute Oil Co.'s No. 1 Mosman, C SW SW Section 33-9n-78, South McCallum district, is bottomed at 325 feet and moving in 15½-inch to shut off water.

Larimer County

C. Leonard Smith's No. 2 Union Pacific, SW cor. Section 31-12-69, Sand Creek, is drilling at 625 feet after making a water shutoff with 6¼-inch at 316 feet.

Weld County

Negotiations are pending between several of the major companies with holdings in northeastern Colorado looking to the drilling of another test in the New Raymer-Buckingham district. While it is practically certain that another well will be drilled this summer, plans have not yet progressed to the point where any announcement can be made. Two crews are reported working in that district making surveys with seismographs.

A prominent oil man who is familiar with a survey made recently offered a suggestion this week which may receive consideration. He says that geophysical surveys in northeastern Colorado indicate a number of promising structures will be found in that territory and that the instruments reveal subsurface geology differing materially from the surface geology. Instead of the formations lying almost flat as they appear at the surface, he says they are considerably broken up and that the evidence points to a number of highs with steep dips. His suggestion is that the state, in the interest of the commonwealth, undertake a complete geophysical survey of the entire territory and make public the results of its findings. His proposal is that the work should be undertaken as one of the measures for unemployment relief under the industrial recovery act. The mere fact that the state was making such a survey, he says, would prompt private enterprise to anticipate the results with its own surveys which he believes would lead to considerable leasing and wildcatting. If this should prove impracticable, he calls attention to the power of the Colorado legislature to create improvement districts which may raise funds through the sale of bonds. Such a district was created for the construction of the Moffat railroad tunnel, built at a cost of $15,000,000.

Fremont County

Cherry Creek Placer Co.'s No. 1 Lucas, SW cor. NE Section 32-18-69, Florence district, is drilling at 2,080 feet in black shale.

Rio Blanco County

California Co.'s No. 1 California-Raven, NW SE Section 30-2n-102, Rangely Dome, was shot again with a total of 1,000 quarts and is swabbing. Results of the shot have not been given out.

Las Animas County

Continental Oil Co.'s No. 1 Maxwell grant, N NE Section 29-34-68, Tercio district, is drilling at 425 feet.

Prowers County

Shastatex Oil & Gas Co.'s No. 1 Lotus Oil, NW NE NE Section 15-23-46, Lamar district, is drilling at 1,375 feet in salt. It went into salt at 1,305 feet.

WYOMING

Sweetwater County

Mountain Fuel Supply Co.'s No. 2 Cappers, SW cor. NW Section 12-19-104, North Baxter Basin, is drilling at 3,040 feet in shale, and its No. 2 Union Pacific, SE cor. NW Section 21-16-104, South Baxter Basin, cemented 8⅝-inch on top of the Frontier at 2,365 feet.

Carbon County

Ohio Oil Co.'s No. 1 Hazlett, SW Section 34-23-79, Allen Lake, is bottomed at 1,710 feet and running 10¾-inch to set at 1,689 feet on top of a sand in the Morrison formation where it has a good show of gas. Mutual Oil Syndicate's No. 9 Dutton Creek Oil, NW NE Section 12-18-78, Dutton Creek, cemented 11⅝-inch at 110 feet and shut down. Earl W. Reeder, Inc.'s No. 1 Union Pacific, C SW SW Section 19-20-83, Overland Dome, is drilling at 1,310 feet with 12½-inch at 800 feet.

Albany County

S. Marvin James & Co.'s No. 1 Hindry, C SW SW Section 10-13-76, Riverside district, is drilling at 1,650 feet and carrying 6⅝-inch at 1,515 feet.

Natrona County

Mutual Oil Syndicate's No. 2 Boyer, NE SW NE Section 23-35-79, Midway dome, is coring at 2,395 feet. This is where the Shannon is expected. Triangle Oil Co.'s No. 1 Ames, SE cor. Section 29-36-85, North Boone Dome, is shut down at 812 feet. It had a small show of gas at 550 feet. Summitt Oil Co.'s No. 1 Trewitt, NW cor. Section 21-33-80. North Platte, is bottomed at 1,825 feet and preparing to run 6⅝-inch. It is supposed to be close to the top of the Sundance.

Niobrara County

J. M. Huber Corp.'s No. 1 Western States, SE cor. SW Section 27-36-65, Lance Creek, an old oil well being deepened, is drilling at 3,534 feet and making 4,500,000 feet of gas per day. It will drill a little deeper before completing.

Weston County

Gose Oil Syndicate's No. 1, NE cor. Section 28-47-63, Soda Creek, is reported rigging up to resume at 5,050 feet, having made no new hole for more than a year. J. H. Voorhees and others' No. 1, NE cor. NW Section 26-48-64, Pump Creek, is rigging to resume at a nominal depth. This structure was the subject of a U. S. Geological Survey bulletin published in 1924. One dry hole was completed on it five years ago. This is a second test.

In the Osage Field, Duluth-Wyoming Oil Co.'s No. 3, SE cor. SW Section 12-46-64, is feeling for the sand at 1,400 feet. Paymac Oil Corp.'s No. 1 Toyne, SE NW NE Section 3-46-64, is waiting for casing at 1,650 feet. Wyoming Oil & Gas Co.'s No. 19, SE NW SE Section 19-46-63, is drilling at 400 feet, and Yellowstone Oil Co.'s No. 4 Butcher, N NW Section 23-46-64, is shut down after running the 8¼-inch. Albert Jones' No. 4, C SW NE Section 21-46-63, is shut down below 200 feet. Riggs Oil Co.'s No. 3,

SE NE Section 16-46-64, is drilling below 200 feet.

Converse County

James A. Brady and others' No. 1, N half NE Section 17-31-71, is drilling at 250 feet after straightening a crooked hole in a crevice at this depth. It had a show of oil at 210 feet and another at 250 feet.

Hot Springs County

Empire State Oil Co.'s No. 4 Republic, NE NW Section 14-44-98, Hamilton Dome, is resuming at 1,150 feet after being shut down since last fall.

MONTANA

Carbon County

Ohio Oil Co.'s No. 9 Souders, C NE SW Section 2-7s-21, Dry Creek, is flowing steadily on a test from the Lakota at 5,471-5,502 feet and is estimated at 1,000 bbls. per day. It is making considerable gas with the oil.

Glacier County

Santa Rita Oil & Gas Co. and P. T. Sweeney's No. 1 Jacobson, C NW NW Section 23-37-5w, North Cut Bank, which came in two weeks ago flowing over the top only to run into water at 2,633 feet, is plugging back to 2,628 feet to make a shutoff. It topped the Darling at 2,625 feet.

Alberta-Pacific Consolidated Oil Co.'s No. 2 Kiesel, SE cor. NW Section 11-34-6w, is bottomed at 1,685 feet and fishing for tools, and its No. 2 Matson, SE NE SW Section 14-34-6w, is bottomed on top of the sand at 2,883 feet and trying to loosen pipe. W. M. Fulton and others' No. 1 Haggerty, NE cor. Section 16-34-6w, is drilling at 2,921 feet with some iron still in the hole. Dakota-Montana Oil Co.'s No. 1 Matson, SE NE NW Section 14-34-6w, is drilling at 410 feet, and the Hannah-Porter Co.'s No. 1 Britton, NW NE NE Section 23-34-6w, is bottomed at 2,893 feet and cleaning out.

Santa Rita Oil & Gas Co.'s No. 1 Olson, NE cor. Section 26-34-6w, is shut down for orders at 2,845 feet.

R. C. Tarrant's No. 2 Haglund, Jr., C NW SE Section 13-34-6w, is sidetracking bailer at 1,995 feet, and his No. 1 Hope, C SW SW Section 18-34-5w, is drilling at 2,070 feet. His No. 1 Williams, NW cor. NE Section 11-34-6w, is drilling at 1,165 feet.

Texas Co.'s No. 1 Fisk, C NW NE Section 14-35-6w, is building rig for rotary. Par Oil Co.'s No. 1 Haines, SE SE Section 2-34-6w, is still swedging pipe after a shot. Its production is varying between 30 and 60 bbls. daily. J. W. Johnson's No. 1 Ewing, C NE NE Section 3-34-6w, is building rig, and Montana Power Co.'s No. 1 Brown, C NE Section 31-35-5w, in the gas area, is rigging up.

Montana Headlight Oil Co.'s No. 1 Britton, NW SW NE Section 14-34-6w, is skidding rig from Tarrant's No. 1 Britton.

One new location was reported in A. B. Cobb's No. 1 Alburger, SW cor. SE Section 35-34-6w.

NEBRASKA

A new operation in the Chadron district, in Dawes County, is Harry Osborne's No. 1 Kurt, NW cor. Section 31-34-47, drilling at 860 feet. It topped the Greenhorn at 470 feet and is headed for the Muddy at 1,000 feet. It is west of J. C. Goebel's No. 1 Conn, C SW NE Section 17-34-46, which was abandoned recently at 1,425 feet after going through the Lakota.

E. E. BYERS DIES

Elwood E. Byers, 59 years of age, a drilling contractor who had followed most of the oil booms in the Southwest since he came to Oklahoma in 1908, died July 6 in a Tulsa hospital. Born in Edinburg, Pa., he engaged in the drilling business and other phases of the oil industry in Indiana and Illinois. His first work in Oklahoma was in the field at Pearsons Switch, near Okmulgee. Ten years ago he formed a partnership with Truman J. Martin under the name Byers Drilling Co.

La.-Ark. Fields

(Continued from Page 51)

was little of importance in Sabine Parish and even there, aside from the two wells already discussed there were only two that showed anything to get excited about. Nick Barbare's No. 1 Ryals, Section 27-9-13, was still standing with 250 feet of oil in the hole from 1,991 feet, waiting for a shot of acid; Helena Oil & Gas Co.'s No. 1 Pugh, Section 18-9-13, had a split casing and recemented to cut off water, total depth 1,643 feet, and Joe Modisette's No. 3 Frost-Johnson, Section 16-9-13, was drilling shale at 2,877 feet. Mid-Continent Crude Oil Purchasing Co.'s No. 1 Louisiana Long Leaf Lumber Co., SE SE Section 12-7-11, Sabine Parish, was awaiting orders after a dry test at 2,875 feet following a similar test at 2,642 feet. Moran Gas Co.'s (Hankins and others) No. 1 Leone estate, Section 31-8-12, a Zwolle townsite well, was waiting on standard rig to pump from 2,515 feet with 800 feet of oil in the hole. Service Drilling Co. was preparing to use acid on No. 2-B Gardner, SW NW Section 7-7-10, total depth 2,835 feet. Llano Del Rio Co-operative Colony's No. 1 Gulf Lumber Co., SE NE Section 6-1n-9, Vernon Parish, was shut down at 2,326 feet with caving hole. Mamie McCurry's No. 1 Richard & Dorman, SW SW Section 13-19-9, West Carroll Parish, was drilling at 2,321 feet, nearing the depth at which gas was struck in the Palmer Corp.'s group of two or three wells in what promised three years ago to be a new gas field in northeast Louisiana but got drowned out.

ARKANSAS-MISSISSIPPI-FLORIDA

K. E. and W. N. Merren's No. 1 Taafe, NW NW Section 25-12-32, Little River County, Arkansas, topped the anhydrite at 2,250 feet and was drilling at 2,261 feet. In Miller County, Black Diamond Oil Co. was drilling at 600 feet on No. 1 Miller Land & Lumber Co., Section 29-18-27. Capt. E. Byrd's No. 1 Westmoreland, SE NE Section 8-19-27, cemented 10-inch casing at 80 feet.

Duluth-Arkansas Oil Co. is making a deep test of No. 1 Price in Section 18-16-25, east of Miller County production, and is drilling at 3,928 feet, approximately 1,000 feet deeper than what production Miller County can boast of. Gleason-Wendell Drilling Co.'s No. 1 Patterson, SE NE Section 5-19-28, is shut down at 1,960 feet. C. H. Murphy and others' No. 1 Mann, another wildcat southeast of production, was coring in the top of the red beds at 1,800 feet. Sam Riggs' No. 1 Boyer, SW NE Section 12-15-27, was drilling at 2,780 feet. R. E. Collins' No. 1 Craig, NE SE Section 15-10-29, Sevier County, was drilling at 1,580 feet after a good gas show at 1,013 feet.

Eastman-Gardiner interests' No. 1 Bank of Deming, NW NW Section 26-8-15, Covington County, Mississippi, cemented 9-inch casing at 4,082 feet, total depth, in gumbo. Lionel Petroleum Co.'s No. 1 Gaddis, Section 7-7-3w, Hinds County, was coring sandy shale and lignite at 1,995 feet. Meredith Trading Co. set 7-inch casing at 752 feet on No. 1 Crewe-Lawrence, NW SW Section 23-6-1e, Hinds County, and was drilling at 1,650 feet. Snow-Block Petroleum Co.'s No. 1 Watson estate, Section 24-7-13, Jones County, was drilling sandy shale at 1,850 feet. Cleve Love and others' No. 1 Childress, NE NE Section 24-5-1e, Rankin County, set 100 feet of 10-inch and was drilling in the Wilcox at 1,500 feet. Muse & Muse's No. 1 Carlton, SW SW Section 13-5-1e, was drilling below 10-inch set at 752 feet. Foster Creek Oil Co. is refinancing No. 1 Foster Creek Lumber Co., Section 12-2n-2w, Wilkinson County, in the Mississippi end of the Conroe-Jackson trend to take it to 4,500 feet after drilling to 3,678 feet without anything showing that could make a well.

Escambia Oil Co.'s No. 1 State Line Lumber Co., NE NW Section 24-1n-10, Escambia County, Alabama, was reaming at 3,200 feet, total depth 2,296 feet, with the bottom in chalk. DeSoto Oil & Gas Co.'s No. 1 Gardner, Section 22-15-26, Lamar County, was reaming at 3,340 feet.

In Walton County, Florida, Roy Eastabrook's No. 1 Walton Land & Timber Co. was drilling at 4,325 feet.

WESTERN MISSOURI REPORTS

The geological department of the Missouri Bureau of Geology and Mines has recently issued two reports on oil and gas occurrence in western Missouri. One is by F. C. Greene, entitled "Oil and Gas Pools of Western Missouri" and the other by Glenn G. Bartle on "The Geology of the Blue Springs Gas Field, Jackson County, Missouri."

These reports cover the only producing area in the state and give complete geological information on the occurrence and accumulation of gas and oil in some 15 pools. Copies may be obtained by writing H. A. Buehler, state geologist, at Rollo, Mo.

NICARAGUA SEEKS OIL

The Nicaraguan congress has approved legislation granting certain exemptions from taxes and imposts to the first individual or corporation discovering petroleum in commercial quantities in Nicaragua.

Wildcat Operations in Southwest Texas

(Continued from Page 52)

C. A. Smith's No. 1 Henry Lamb, 750 ft. from N and E lines of Lamb farm, in de la Garsa grant ..... Spudded in and waiting for heavier rig.

F. E. Tegler's No. 1 Brackenridge, 575 ft. from S line, 2,284 ft. from W line of tract in Maria Gertrudis de Alaniz Sur. ..... T.D. 835 ft.; drlg.

Tipton's No. 1 Gembler, 514 ft. from W line, 616 ft. from N line of 120-ac. tract in M. Gotari Sur. ..... Spudded in.

BLANCO COUNTY

Blanco Development Co.'s (McGee) No. 1 A. J. Dittmar, 1,320 ft. from S line, 150 ft. from W line of George Evans Sur. No. 55, 4 miles NW of Johnson City ..... T.D. 350 ft; drlg.

C. L. McLeary's No. 1 Mier, 600 ft. from SW line, 1,000 ft. from SE line of George Schenling Sur. No. 154. T.D. 360 ft; S.D. in lime.

Isham et al's No. 1 Lester ranch, 200 varas from N and E lines of Antonio Bandrand Sur., 8 miles NE from Johnson City ..... T.D. 100 ft.; drlg.

CALDWELL COUNTY

Cargill et al's No. 1 Brown, 1,600 ft. from E line, 330 ft. from S line of C. E. Brown 112-ac. tract, Dillard Cooper Sur. ..... T.D. 1,965 ft; coring.

Detroit Texas Oil Co.'s No. 1 Louis Rogers, 900 ft. from NE line, 400 ft. from SE line of 78-ac. tract in A. Floyd Sur. No. 46 ..... T.D. 2,592 ft; abd.

De-Tex Oil Co.'s No. 1 Louis Rogers, 900 ft. from NE line, 400 ft. from SE line of 78-ac. tract in A. Floyd Sur. ..... T.D. 2,535 ft.; drlg.

E. L. Hope and Joe Cole's No. 1 Mike August, 150 ft. from NE line, 165 ft. from NW line of tract ..... T.D. 1,598 ft.; moving in boiler.

DE WITT COUNTY

L. G. Wade's No. 1 fee, 6 miles S from Yoakum ..... T.D. 2,400 ft.; drlg.

DIMMITT COUNTY

Ed Anglin's No. 1 Dr. A. J. A. Fitch, 930 ft. from NW line, 2,100 ft. from SW line of Sec. 4, F. Proctor Sur., 1¼ miles E from Carrizo Springs ..... T.D. 965 ft.; S.D.

DUVAL COUNTY

Clark & Miller's No. 1 R. Lopez, 150 ft. from N line, 330 ft. from W line of Sur. 141, S. C. I. Co., 8 miles SW from San Diego ..... T.D. 1,760 ft; sanding.

M. J. Coffey's No. 1 Parr, 591 ft. from W line, 270 ft. from N of NW cor. of Sec. 2, located in Sur. 27 ..... T.D. 1,710 ft.; waiting for new boiler.

T. J. Conway and C. A. Campbell's No. 1 W. K. Hoffman, 330 ft. from NW line, 1,650 ft. from NE line of Sur. No. 114 ..... Spudded in.

DeLange & Snider's No. 1 Sanchez, 330 ft. from N and E lines of 80 acres in Blk. 35 of Sur. No. 197 ..... T.D. 3,725 ft; drlg.

Huff et al's No. 1 A. Rosch 685 ft. from E line, 43 ft. from S line of Blk. 7, Sur. No. 457 ..... T.D. 200 ft.; spudded in.

Magnolia Pet. Co.'s No. 1 Duval County Ranch Co., 330 ft. from S and E lines of NE of Sur. No. 363 ..... T.D. 2,264 ft.; swabbed 65 bbls. in 18 hrs.; to go on pump.

G. G. Mortimer's No. 1 Peal, 330 ft. from S and W lines of Sur. No. 792 ..... T.D. 2,295 ft.; coring.

William B. Stewart's No. 1 Duval County Ranch Co., 300 ft. from E line, 330 ft. from W line of S half of SE, Sur. 363 ..... T.D. 300 ft.; S.D. for wtr.

Windsor Oil Co.'s No. 1 Peters, 330 ft. from E line, 2,904 ft. from S line of W ½ of S (or 1,600 ft. to N 2,900 ft. to W of Sur.) No. 33 ..... T.D. 2,234 ft; comp. 10,000,000 ft. gas.

Wright & Wilson's No. 1 Wood-Welder, 6,150 ft. from N line, 7,200 ft. from W line of Sur. No. 102 ..... Abd. location.

FRIO COUNTY

J. E. Greenlee's No. 2 Burns, 150 ft. from W line, 1,800 ft. from S line of SE of 160-ac. tract, Castro Sur. No. 123 ..... T.D. 1,250 ft.; drlg. shale.

Hardy Roberts' No. 1 Burns, Sur. No. 123 ..... Spudded in.

GOLIAD COUNTY

Gillett Oil Co.'s No. 1 Lackey & Weldon, 3,000 ft. NE of Humble test 3 years ago ..... Spudded in.

GUADALUPE COUNTY

Clint Lanier's No. 1 L. D. Hill, 450 ft. from NW line, 1,450 ft. from NE line of George Allen Sur. ..... Rig on ground.

HIDALGO COUNTY

Carl & Johnston's No. 1 Doughty, 127 ft. from S and E lines of Lot 11, Blk. 5 of Subd. of Indios Ranch Sur. in N. Hidalgo ..... T.D. 2,945 ft; coring.

Maxwell & Young's No. 1 King, 175 ft. from N and E lines of Lot 8, Blk. 16, Alamo tract ..... T.D. 125 ft; standing in quicksand waiting for csg.

JIM HOGG COUNTY

D. C. DeWitt's No. 1 A. G. Lopez, 3,475 ft. from W line, 435 ft. from N line of Sur. No. 106 ..... T.D. 1,650 ft; standing.

R. F. Force's No. 1 Holbien, 150 ft. from N and W lines of Blk. 54, Sec. 9 of Holbien Sur. of Share 3 of Las Animas grant ..... T.D. 2,800 ft; sanding.

Seaton A. Barnes, Jr.'s No. 1 R. Holbien, 330 ft. from W line, 340 ft. from S line, of Blk. 54, share 3, Los Animas tract ..... T.D. 1,700 ft; drlg.

Shankle et al's No. 1 Thompson, Blk. 19, Share 3, Las Animas grant ..... T.D. 1,700 ft; drlg.

KARNES COUNTY

Accumulator Royalty Co.'s No. 1 Rudd, 6 mi. S from Kennedy ..... T.D. 20 ft; drlg. rock.

Tippett & Mull's No. 1 Smith, 8,500 ft. from N line, 200 ft. from E line of Francis Haskins Sur. ..... T.D. 580 ft; T.A.

John S. Pickett's No. 1 Salge, 150 ft. from W line, 750 ft. from N line of John Pate Sur., 3 mi. N from Karnes City ..... T.D. 100 ft; drlg.

KENDALL COUNTY

E. W. Martin's No. 1 Houston, in F. Wright Sur. ..... T.D. 700 ft; fishing.

KERR COUNTY

J. E. Anderson's No. 1 J. D. Witt, 1,320 ft. from N line, 1,320 ft. from W line of Sec. 1,935, in Hamilton Sur., 4 miles S of Center Point ..... T.D. 1,412 ft; S.D.

W. E. Clark's No. 1 Love, 660 ft. from N and W lines of Mrs. Cassandra Winn Sur. No. 1,759 ..... Rigging up.

Eastland Oil Co.'s No. 1 Love, 1,100 ft. SW of Evans & Gant's No. 1 Love ..... T.D. 2,480 ft; U.R. 8-in.

KLEBERG COUNTY

Harry Clark's No. 1 V. J. Kivlin, 360 ft. from E line, 400 ft. from S line of Sec. 39, Blk. 8, Kleberg Town & Improvement Co. Sur. ..... T.D. 1,600 ft; S.D.

Harris et al's No. 1 Dennett, 660 ft. from S line, 760 ft. from E line of Blk. 7, Sec. 38, Kleberg Town & Improvement Co. Sur. ..... T.D. 3,100 ft; S.D.

LA SALLE COUNTY

C. B. Bunte's No. 1 Mrs. T. A. Coleman, CNL NE Sec. 68, Poitevant Sur. ..... T.D. 427 ft; drlg. sand.
E. O. Mead's No. 1 Los Angeles Townsite Sur. No. 38 .... T.D. 2,510 ft; drlg.
W. H. Wallace's No. 1 H. C. Yeager, 150 ft. from S and E lines of Sur. No. 95 ..... T.D. 1,260 ft; drlg.

LEE COUNTY

Paton Bros.' No. 1-B Turner, 424 ft. from NW line, 275 ft. from NE line of 51.9-ac. tract in David Hudson Sur. ..... T.D. 6,626 ft; tested 2,160 ft. fluid, 300 of it mud.

LIVE OAK COUNTY

Coquat, O'Neill & Phillips' No. 3 Sanger, 2,930 ft. from SW line, 330 ft. from SE line of Sur. No. 350..... Spudded in and set surface csg.
Loma Oil Co.'s No. 1 A. J. Turner, 4,000 ft. from SW and 160 ft. from SE line of 660-ac. tract in Hays Sur. 2 mi. NE from Griffith well ..... T.D. 100 ft; drlg.
S. R. C. Oil Co.'s No. 1 Nichols, 6,400 ft. from SW cor. and 1,150 ft. NE at right angles in Simeon Ryan Sur. T.D. 1,803 ft; abd. dry.
Whitfield's No. 1 Terrell, David O'Boyle Sur., 5 miles NW from Three Rivers ..... T.D. 920 ft; coring.
R. P. Whitfield's No. 1 Terrell, SW cor. of 2,500-ac. tract in David O'Boyle Sur., 5 mi. NW from Three Rivers ..... T.D. 640 ft; waiting on orders.

McMULLEN COUNTY

Boysen & Hotchkin's No. 1 Hugist, 1,650 ft. from W line, 990 ft. from N line of 160-ac. tract in G. B. Kinney Sur. No. 8 ..... T.D. 1,803 ft; S.D. to drill wtr. well.
Darby Oil Co.'s No. 1 Sling, 150 ft. from S and E lines of NE of B.S.&F. Sur. No. 111 ..... T.D. 1,902 ft; standing for wtr.
Dalton Lain's No. 1 Two Rivers ranch, 800 ft. from E line, 1,200 ft. from S line of SE Sec. 25, Two Rivers Ranch Subd. of Live Oak County School land ..... T.D. 1,101 ft; abd.
C. R. Pope, Inc.'s No. 1 A. C. Miles, 200 ft. to E line, 2,375 ft. to S line, Sur. 149 ..... T.D. 2,165 ft.; drlg.
V. G. Schimmel's No. 2 H. F. C. Wulf, 150 ft. from S line, 660 ft. from W line of W½ NW Sec. 72, of Two Rivers Ranch Sur. ..... T.D. 1,550 ft; drlg.
S. R. C. and Sinclair Prairie's No. 2 LaChusa, 330 ft. from S and E lines of NW Sec. 36, Sur., 2 miles E from No. 1 ..... T.D. 3,005 ft; abd.
Shumway et al's No. 1 Wulf, Sur. 4 miles SE from No. 2 Shiner, 1,730 ft. from S line, 167 ft. from W line of Steinhardt Sur. No. 190 ..... T.D. 1,512 ft; drlg.
Whitfield's No. 1 Jacob, 1,335 ft. from S line, 355 ft. from E line of NE Sec. 9, of Jacob ranch, T.&N.O. R.R. Sur., 1 mile NW from Jacob Pool ..... T.D. 940 ft.; S.D.

MEDINA COUNTY

L. C. Stogner's No. 1 Hahn, 330 ft. from E line, 1,320 ft. from S line of survey, P. Wilson Sur. No. 875 .... T.D. 200 ft.; big flow fresh wtr. at 130 ft.

MILAM COUNTY

Ed Clark et al's No. 1 Thomas Graves, 250 ft. from SW and NW lines of Jackson Hall Sur. ..... T.D. 780 ft.; drlg. sticky shale.
Clark et al's No. 1 Hoppe, 450 ft. from NE line and 450 ft. from SE line of E. Hoppe 60-ac. tract in Juan Jose Acosta Sur. ..... T.D. 520 ft.; standing.

SAN PATRICIO COUNTY

George W. Scruggs' No. 1 Collins, 1,040 ft. from NE line, 700 ft. from SE line of Blk. 36, E. J. McGloin Sur. ..... T.D. 2,754 ft; changing to heavier rig.

STARR COUNTY

B.&B. Oil Co.'s No. 1 Crown Brick & Tile Co., 1,800 ft. S of State Highway No. 4 and 580 ft. from W line of Porcion 87, near La Puerta ..... T.D. 4,560 ft; milling out tools lost in hole.
W. P. Chancellor's No. 1 A Guerra, 26,000 ft. from S line, 2,600 ft. from E line of Share No. 6 of San Jose Grant Sur., NE cor. of county ..... T.D. 1,825 ft; drlg. sand 1,702-04 ft; showed gas.
Chiquita Oil Co.'s No. 1 Starr County Cattle Co., 341 ft. from W line, 371 ft. from S line of Share 60, Partition of Porcions 88 and 89 ..... T.D. 618 ft; drlg.
F. R. Cooper's No. 1 J. M. Martinez, 150 ft. to S and E lines of A.B.&M. Sur. No. 135 ..... T.D. 2,280 ft; standing.
Great Plains Oil Co.'s No. 1 Sanchez, 660 ft. from W line, 330 ft. from S line of SE NW of Sur. No. 344 ... T.D. 2,300 ft.; standing.
Jeffries and Lambeth Drlg. Co.'s No. 1 Starr County Cattle Co., 11,572 ft. from N line, 2,490 ft. from E line of Porcion 89, Sur. jurisdiction Camargo, 8 miles NE from Rio Grande City ..... T.D. 2,290 ft; resuming.
E. H. Stickney's No. 1 H. Gonzales, 300 ft. from E line, 3,166 ft. from S line of H.E.&W.T. Sur. 339.... T.D. 1,130 ft; drlg.
Sun Oil Co.'s No. 1 Guerra, 1,140 ft. from W line, 6,935 ft. from S line of 1,360-ac. tract in Share 14-B of Las Quevitasb grant ..... T.D. 2,232 ft; shut in after testing 15 bbls. hrly. in addition to est. 17,000,000 ft. gas.
Sun Oil Co.'s No. 1-B Guerra, 9,677 ft. from SE line, 3,300 ft. from SW line of Share H-14-B Sur., La Cuevitas grant ..... Derrick.
Sun Oil Co.'s No. 1-C Guerra, 4,861 ft. from NW line, 660 ft. from NE line of Sur. La Sacatosa grant .... Clearing location.
Goodwain & Yantis' No. 1 Seabury, 150 ft. from S and W lines of Sec. 107, Share No. 1, Porcion No. 107.... T.D. 1,200 ft; drlg.

UVALDE COUNTY

Frank A. Brown's No. 1 J. A. Milliken, 1,800 varas from W line which is Sabinal River, and 108 varas from S line of Antonio Cruz Sur. No. 363 ..... T.D. 100 ft.; standing.
Evans & Thompson's No. 1 Farris, 400 ft. from S and W lines of 535-ac. tract near center of John J. Hammond Sur. ..... T.D. 380 ft; changing rigs.

WEBB COUNTY

Edwin M. Jones' No. 2 Callaghan, 330 ft. from S and E lines of C.C.S.D.&R.G.N.G. R.R. Sur. No. 1,211.... Rigging up.
J. W. Edwards' No. 1 Boltz, 1,170 ft. from S and E lines of Sec. 58, Blk. 2, C.C.S.D.&R.G.N.G. Ry. Sur... T.D. 2,505 ft; abd.
O. W. Killam's No. 1 V. Pena, Sur. Ratones ranch Dolores Subd. Borrego grant ..... Spudded in.
P. G. Rouse's No. 1 S. M. Withers, 3,000 ft. from E line, 400 ft. from N line of Sur. No. 28 ..... T.D. 1,136 ft; reinstated to drill deeper.
Shankle & Roche's No. 1 W. W. Stell, 660 ft. from N and W lines of NW NW of No. 37 Sur., 11 miles N from Mirando City ..... T.D. 2,500 ft.; S.D. at contract depth.
Will Ohlhausen's No. 1 Moses Jones, 273 varas from E line, 516 varas from S line of 100-ac. tract in Sur. No. 1,840 ..... T.D. 350 ft.; standing.

WILLIAMSON COUNTY

Bob Fallin's No. 1 Polsin, 1,000 ft. from N and E lines of Jacob Sapington, NE from Round Rock ..... T.D. 1,355 ft.; in Edwards; S.D.

WILSON COUNTY

Humble Oil & Refining Co.'s No. 1 Hardy, 607 ft. from S line, 466 ft. from E line of Hardy 65-ac. tract in Joseph Reynolds Sur. ..... T.D. 4,891 ft; in Serpentine; coring.
Sexton Pet. Co.'s No. 1 Joe Gutzeit (1,032-ac.), 150 ft. from W line, 150 ft. from S line of road of F. Flores No. 18 Sur. ..... T.D. 175 ft; drlg.

ZAPATA COUNTY

Circle W. Oil Co.'s No. 1 M. Garza est., 633 ft. from NW line and 699 ft. from SW line of Blk. 30, C. A. Douglas Subd. of Charco de la India grant ..... Rigging up.

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Save Your Oil

OIL lost by evaporation is lost just as certainly as though it had been poured out on the ground. Oil destroyed by fire is also unquestionably on the wrong side of the "profit and loss" statement. Stopping evaporation and reducing the fire hazard is therefore equivalent to saving oil.

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THE CUSTOM-MADE WELDING WIRE—FOR EXACTING WELDERS

Hamilton, Brower & Crow's No. 1 Slator, 2,111 ft. from SW line, 1,980 ft. from SE line of Blk. 1, Subd. of Slator ranch in J. V. Borrego grant ..... T.D. 1,069 ft; standing depth corrected.

O. W. Killam's No. 1 V. Pena, 1,350 ft. from N line, 4,790 ft. from W line of Ratones ranch subd. of Borrego grant ..... T.D. 1,961 ft; comp.

Sarah Poppas' No. 1 Juan V. Cueller, Jr., 150 ft. from NE and SE lines of Blk. 3, Sur. 2 of Poppas Subd. of Por. 34 ..... T.D. 800 ft; drlg.

A. C. Savoy et al's No. 1 Flores, 150 ft. from NW line, 206 ft. from NE line of Blk. 8, Share 1 of P. A. Richer Subd. of Porcion No. 36 ..... T.D. 2,404 ft.; drlg.

Stevens & Brown's No. 1 Alexandro Garcia, 660 ft. from SW line, 660 ft. from NW line of Blk. 6, Stevens & Brown Subd. of W 750 acres, Charco Redondo grant, A. Garcia tr. 16 miles SE of Zapata ..... T.D. 1,250 ft; standing.

A. H. Wray's No. 1 Gopher Trust Est., in Fullerton Subd. of Share 8 of J. V. Borrego grant ..... T.D. 370 ft; comp. 5,000,000 ft. gas.

ZAVALA COUNTY

Zavala O. & G. Co.'s No. 1 Gates, 1,320 ft. from N line, 1,320 ft. from E line of Hooper & Wade Sur. No. 13 .. T.D. 6,053 ft.; fishing for 3,500 ft. drill stem.

Southwest Texas Proven Areas

Week Ending July 8

Company, well, farm name, section and block—	Remarks:
HILBIG POOL—BASTROP COUNTY	
Humble O. & R. Co.'s No. 5 Wilhelm, 295 ft. from E line of tract and 315 ft. SW of SW cor. of Pierce Wolfensbarger tract	T.D. 2,385 ft; set csg.
RIDDLE POOL—BASTROP COUNTY	
Floyd Dodson's (and Muckelroy) No. 1 Duran, 45-ac., 300 ft. from NE line, 1,440 ft. from SE line of 100-ac. tract, Flynt Sur.	T.D. 1,450 ft.; drlg. shale.
Marts & Beavens' No. 1-A Riddle (202-ac.)	T.D. 1,810 ft; drlg.
Ogden & Reed's No. 1 Talley, 150 ft. from NW line, 1,350 ft. from SW line of John Maxmillan Sur.	T.D. 2,127 ft.; S.D.
Ogden & Reed's No. 1 C. L. Riddle	T.D. 2,182 ft.; testing.
PETTUS POOL—BEE COUNTY	
Mauldin's No. 4 fee, 420 ft. NE of No. 3, ½ mile S from Pettus townsite	Rigging up.
TULETA POOL—BEE COUNTY	
Grisham et al's No. 1 Rapp & Hatch, 1,700 ft. from N line, 2,640 ft. from E line, Sec. 12 of Ragsley's Subd. of Uranga grant	T.D. 4,300 ft; drlg. Yegua; failed to produce.
ECKERT POOL—BEXAR COUNTY	
J. F. Harrison's No. 1 F. Gembler, 150 ft. from NW line, 460 ft. from NE line of 88-ac. tract in J. Montes Sur.	Fishing 350 ft.
McDaniel & Wood's No. 1 A. C. Gembler, 150 ft. from N and W lines of 40-ac. tract, Gotari Sur.	Moving in.
COYLE-CONCORD POOL—COLORADO COUNTY	
Humble and Coyle-Concord's No. 1, diagonal offset to Plymouth	Rigging up.
EAST COLE POOL—DUVAL COUNTY	
Cole & Wise's No. 1 S. Benavides, 150 ft. from SW and NW lines of Blk. 415, Myrtle E. Hale Subd. of Mariana Arispe grant	T.D. 1,977 ft; drlg.
NORTH GOVERNMENT WELLS POOL—DUVAL COUNTY	
Central Producers, Inc.'s No. 7 Tuck & Johnson, 330 ft. from S and W lines of SE SW of Sur. No. 42	Rigging up.
Hester Bros.' No. 1 fee, 330 ft. from S and E lines of NE of Sur. No. 47	Rigging up.
Humble Oil & Refining Co.'s No. 5 C. W. Hahl, 990 ft. from S line, 330 ft. from W line of E half of Sur. 360	T.D. 2,301 ft; comp. 75 bbls.
Humble O. & R. Co.'s No. 6 Hahl, 330 ft. from W line, 1,650 ft. from S line of E½ of Sur. No. 360	T.D. 2,299 ft; running csg.
Navarro Oil Co.'s No. 12 C. W. Hahl, 330 ft. from E line, 1,016 ft. from S line of W½ of Sur. 360.....	T.D. 2,294 ft; comp. 35 bbls. hrly.
Navarro Oil Co.'s No. 13 Hahl, 1,650 ft. from S line, 330 ft. from E line of W½ of Sur. No. 360	T.D. 2,289 ft; comp. 75 bbls.
Navarro Oil Co.'s No. 7 Hahl, 660 ft. N of No. 6, 330 ft. from W line of Sur. No. 360	T.D. 2,422 ft; deepened; swabbed wtr.
Navarro Oil Co.'s No. 15 Hahl, 2,970 ft. from S line, 330 ft. from E line of W½ of Sur. No. 360	T.D. 67 ft; set surface csg.; W. O.C.
Reynosa Oil Corp.'s No. 7-A Well, 60 ft. NE of No. 7..	Rigging up.
Reynosa Oil Corp.'s No. 1 Duval County Ranch Co., 330 ft. from N and W lines of N½ of SW of Sur. No. 362	T.D. 1,150 ft; drlg.
Southwest Drilling Co.'s No. 10 Wendt, 990 ft. from N and E lines of SE of Sur. No. 43	T.D. 2,271 ft; set csg.; W.O.C.
Southwest Drlg. Co.'s No. 10 Wendt, 990 ft. from N and E lines of SE of Sur. No. 43	Rigging up.
C. J. Storey's (Wilkins Seacord) No. 3 Lundell, 1,110 ft. from N line, 150 ft. from E line of Sur. No. 48..	T.D. 2,292 ft; setting csg. after testing gas spraying oil and received 6 trabbles of oil.
Sun Oil Co.'s No. 4 Weiderkehr, 2,310 ft. from S line, 330 ft. from E line of Sur. 359	T.D. 2,367 ft; comp. flowing 12 bbls. hrly. on choke.
Texas Co.'s No. 8 Wendt, 1,650 ft. from E line, 990 ft. from N line of NW of Sur. 42	T.D. 2,251 ft; comp. 3 bbls. per hr.
Texas Co.'s No. 9 Wendt, 990 ft. from W line, 330 ft. from S line of 122-ac. tract in W. N. Seago Sur. No. 42	T.D. 1,940 ft.; drlg.
SARNOSA POOL—DUVAL COUNTY	
Navarro Oil Co.'s No. 20 Hahl, 1,650 ft. from S line, 990 ft. from E line of W½ of Sur. No. 360	Skidding derrick.
Sun Oil Co.'s No. 4 Cano	Set surface csg.; W.O.C.
Sun Oil Co.'s No. 3 Cano, 330 ft. from NE and SE lines of Sur. No. 676	T.D. 2,426 ft; comp. 10 bbls. hrly.
Sarnosa Oil Co.'s No. 2 Well, 855 ft. from NW line, 345 ft. from NE line of Sur. No. 120	T.D. 2,424 ft; being comp.
PETERS POOL—DUVAL COUNTY	
R. F. Duggan's No. 1 Sutherland, 1,807 ft. from E line, 4,186 ft. from S line of Sur. No. 187	Derrick.
Shasta Oil Co.'s No. 4 Peters, 990 ft. from E line, 330 ft. from S line of Strip Sur. No. 65	T.D. 2,494 ft.; P.B. to 2,357 ft.; testing.
SANDIA POOL—JIM WELLS COUNTY	
Crude Oil Royalty Co.'s No. 1 Allen, 150 ft. from N and E lines of Blk. 2, Subd. of Wade ranch	T.D. 2,648 ft; waiting for csg. and trying to get on bottom; drlg. wtr. well.
JACOBS POOL—McMULLEN COUNTY	
Loma Oil Co.'s No. 13-A Jacob, 1,320 ft. N, 15 deg. E from No. 13-A	T.D. 944 ft; running line.
Longhorn Oil Co.'s No. 2-A C. T. Lark, in E. W. B. Scrugham Sur.	T.D. 1,021 ft; recemented csg.
Longhorn Oil Co.'s No. 3-A Lark, 660 ft. S of No. 1-A Lark	T.D. 1,033 ft; slopping oil over top of csg.
WENTZ POOL—McMULLEN COUNTY	
V. G. Schimmel's No. 2 H. F. C. Wulf, 150 ft. from S line, 660 ft. from W line of W of NW of Sec. 72, Two Rivers Ranch	T.D. 800 ft.; drlg.
ADAMS GAS POOL—MEDINA COUNTY	
Yantis Oil Co.'s No. 1-A Adams, skidded derrick few feet from No. 1	T.D. 680 ft; resumed drlg.

KING POOL—NUECES COUNTY

John F. Camp's No. 1 King, 150 ft. from N and W lines of E½ of Sec. 29, of Richard King Subd. .....T.D. 4,593 ft; drlg sticky shale.

MATHIS POOL—SAN PATRICIO COUNTY

Geo. W. Scruggs' No. 1 Collins .....T.D. 2,756 ft.; changed to heavier rig.

LOS OLMOS POOL—STARR COUNTY

Hooks & Weaver's No. 15 Kelsey Bass, 200 ft. from W line, 150 ft. from S line, NW SE Sec. 6, Pors. 75, 76, 77, jurisdiction Camargo .....T.D.; coring sand.

Hooks & Weavers' No. 14-A2 Kelsey Bass, 200 ft. from W line, 250 ft. from S line of E 30 acres of NE SW Sec. 6, Pors. 75, 76, 77, Camargo ..... Drlg. 1,268 ft; moving in larger rig.

LAUREL POOL—WEBB COUNTY

Remo Royalty Co.'s No. 1 Garcia-Villareal, 150 ft. from N and W lines of SW SW of Sur. No. 1,100 .....T.D. 2,295 ft; abd.

Shankle & Newton's No. 1 S. Benavides, 330 ft. from S and E lines of Blk. 13, in No. 2,272 Sur. .....T.D. 40 ft; set surface csg.; W.O.C

South Tex. Oil Co. and Max Pray's No. 1 Laurel, 600 ft. from W line, 150 ft. from S line of Blk. 5, Sur. No. 270 .....T.D. 2,364 ft; abd.

Texas Unity Co.'s No. 1 Yeager, 1,325 ft. from N and W lines of A.B.&M. Ry. Sur. No. 52 .....T.D. 1,550 ft; abd.

Arthur H. Wray's No. 1 Laurel, 600 ft. from W line, 150 ft. from S line of Blk. 5, Sur. 270 .....T.D. 1,100 ft; drlg.

EAST COLE FIELD—WEBB COUNTY

E. H. Morris' No. 1 S. Benavides, 150 ft. from NE and SE lines of Blk. 318, Myrtle E. Hale Subd. of Mariano Arispe Grant Sur. .....Abd. location.

MOCA POOL—WEBB COUNTY

Moca Oil Co.'s No. 4 Duval County Ranch Co., 810 ft. from N line, 120 ft. from W line of Blk. 22, Share 3, Zapata County School Land .....T.D. 1,214 ft.; P.B. to 891 ft.

D. R. Semmes' No. 1 Duval County Ranch Co., 510 ft. from N line, 1,690 ft. from E line of Lot 22, League 3 of Zapata County School Land .....T.D. 891 ft; comp. 100 bbls.

D. R. Semmes' No. 2 Duval County Ranch Co., 150 ft. from N line, 1,540 ft. from E line, Lot 22, League 3 of Zapata County School Land .....T.D. 909 ft; comp. 100 bbls.

S.R.C. et al's No. 2 Duval Co. Ranch Co., 330 ft. W of No. 1, 150 ft. from S line of lease, League No. 3 of Zapata County School Land Sur. .....T.D. 700 ft; drlg.

CHAPMAN POOL—WILLIAMSON COUNTY

Deep Pay Exploration Co.'s No. 1 M. V. Lawrence, 237 ft. from W line, 86 ft. from S line of S. Miller Sur. .....T.D. 2,860 ft.; fishing.

ESCOBAS POOL—ZAPATA COUNTY

Texas Co.'s No. 30 Measles, 2,038 ft. from SE line, 18,-270 ft. from SW line of Cerrito Blanco grant .....T.D. 1,195 ft; W.O.C.

LAUREL POOL—ZAPATA COUNTY

South Texas Oil Co.'s No. 8 Laurel, 540 ft. from S line and 1,103 ft. from W line of Blk. 13, Sur. No. 270 ...Rigging up.

MIRANDO VALLEY POOL—ZAPATA COUNTY

J. W. Edwards' No. 1 R. Hinnant, 150 ft. from SE lines of Blk. 8, Sur. No. 116 .....T.D. 1,480 ft; drlg.

Wildcat Operations in Louisiana-Arkansas

(Continued from Page 51)

NW cor. Sec. 40-4-1e .....S.D. 1,650 ft.

SABINE PARISH

C. D. Lee, tr.'s No. 1 Whitney, 330 ft. N and W, SE cor. NW NE Sec. 19-9-14 .....Base chalk 2,107 ft; S.D.; W.O. 2,205 ft.

CONVERSE DISTRICT

R. L. Gay's No. 1-B Bowman-Hicks, 330 ft. N and E, SW cor. SW NE Section 22-9-13 .....Derrick.

Lambert et al's No. 1 Edwards, 300 ft. S and E, NW cor. SW NW Sec. 29-9-13 .....D.S.test 2,045-3,328 ft; S.W. and mud; W.O.

Joe Modisette's No. 2 Frost Lbr. Industries, 330 ft. S and E, NW cor. NE SW Sec. 16-9-13 .....Drlg. shale 2,877 ft.

Arkansas

COLUMBIA COUNTY

C. W. Alworth et al's No. 1 W. D. King, SW cor. SE SW Sec. 16-17-20 .....Drlg. 1,117 ft.

DESHA COUNTY

T. J. O'Hara's No. 1 Martin, NW cor. NW SE Sec. 3-8-1e .....S.D. 140 ft.

JEFFERSON COUNTY

J. E. Elliott's No. 1 B. V. Nevin, 440 ft. N and E, SW cor. SW NW Sec. 26-4-10 .....Derrick.

R. V. Harrell et al's No. 1 McGoughey, NW cor. Sec. 22-7-10 .....S.D. 1,550 ft.

HEMPSTEAD COUNTY

Kentucky O. & G. Co.'s No. 1 Leslie, NW cor. SW NW Sec. 21-9-26 .....Derrick.

LITTLE RIVER COUNTY

K. E. and W. N. Merren's No. 1 Taafe, Sec. 25-12-32, 330 ft. N and W, SE cor. NW NW .....Drlg. 2,361 ft.

LAFAYETTE COUNTY

Geo. W. Harper's No. 1 Reed-Bodcaw, NW cor. Sec. 16-15-23 .....Set 10-in. 40 ft.

MILLER COUNTY

J. T. Humphrey's No. 1 Grace, C SW SW Sec. 9-15-27...Cmtd. 10-in. 206 ft.

Tarkington et al's No. 1 Gibson, 1,980 ft. N, 440 ft. E, SW cor. Sec. 30-18-27 .....Rigging up.

UNION COUNTY

E. R. Henderson's No. 1 Snyder, 400 ft. N, 660 ft. E, SW cor. NE SE Sec. 2-19-15 .....Rig up.

NEVADA COUNTY

Longoria et al's No. 1 Dick Gulley heirs, Sec. 2-12-20....Rig up.

Mississippi

JONES COUNTY

Snow-Black Pet. Co.'s No. 1 Watson, 600 ft. W, 210 ft. S, center, Sec. 24-7-13 .....Drlg. sandy shale 1,850 ft.

LAMAR COUNTY

Lamar Oil Co.'s No. 1 Scott, NE NE Sec. 18-3n-14.....Drlg. marl 1,480 ft.

WALTHALL COUNTY

Mutual O. & G. Co.'s No. 1 Boyd, Sec. 24-2n-9e, SW cor. SW SE .....Derrick pattern.

WARREN COUNTY

Kistler & Stivers' No. 1 Blake est., 1,315 ft. NE Blakely Station, Sec. 15-17-5 .....Cmtd. 12½-in. 316 ft; drlg. 2,-620 ft.

Louisiana-Arkansas Proven Areas

North Louisiana

CADDO—BETHANY

Company, well, farm name, section and block—	Remarks:
Tom Collins Pet. Co.'s No. 1 Gill & Lipscomb, 660 ft. N, 1,506 ft. E, SW cor. Sec. 17-16-16	Derrick.

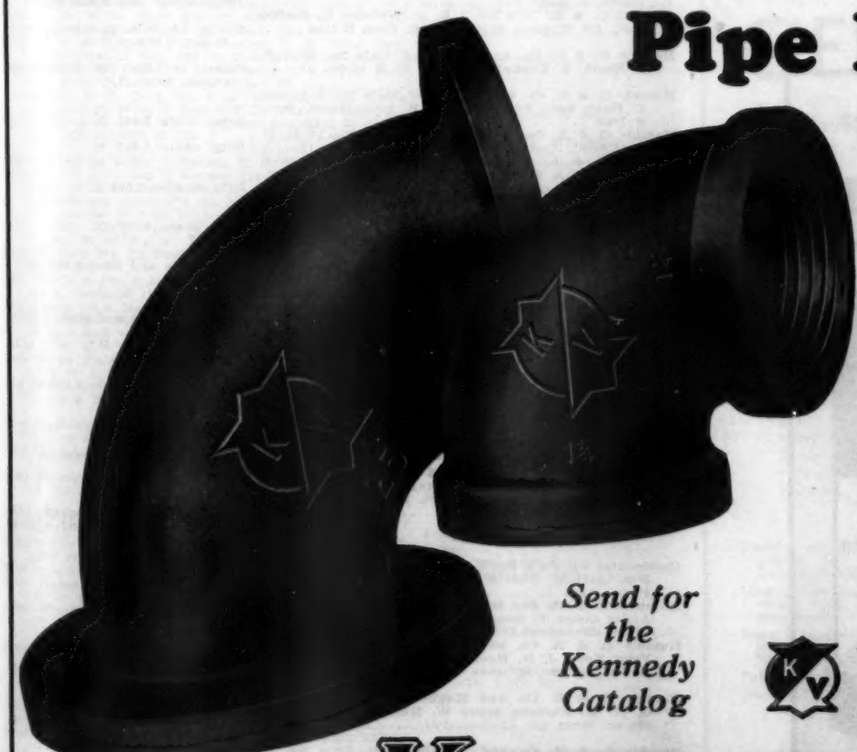
CADDO PARISH—BLANCHARD

Nick Barber's No. 2 P. A. Sharpe, 330 ft. S and W, NE cor. NE SE Sec. 9-18-16 .....Rig up.

Louana O. & G. Co.'s No. 2 Sharp, Sec. 10-18-16, 660 ft. S and W, NE cor. NW .....Began drlg. July 1; 10-in. 30 ft; drlg. 300 ft.

CADDO—RODESSA

Ark. La. P. L. Co.'s No. 1 Williams & Windham, Sec. 4-22-16, 560 ft. S, 660 ft. E, NW cor. NE NW .....Drlg. shale and lime 2,450 ft.



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U. S. PAT.

United Gas Public Service Co.'s No. 1 Festeruan, Sec. 23-23-16, 1,980 ft. N, 1,320 ft. E, SW cor. ..... Began drlg. July 4; drlg. 356 ft.

CLAIBORNE PARISH

Haynesville Partnership's No. 1 J. L. Garrett, 300 ft. S and E, NW cor. SW Sec. 35-23-8 ..... Tested S.W. 4,707 ft.

DE SOTO PARISH

Tom McKinney et al's No. 1 J. M. Nabors, 330 ft. N and E, SW cor. SE SE Sec. 28-12-12 ..... Rig up.

MOREHOUSE PARISH

The Texas Co.'s No. 1 Sisson, 300 ft. N, 330 ft. E. center Sec. 36-22-3 ..... Cored white sand 3,501-05 ft; W.O.

United Gas Public Service Co.'s No. 30 Crossett, Sec. 25-22-4e ..... Derrick.

United Gas Public Service Co.'s No. 2 Patton, 3,375 ft. S, 2,917 ft. E, NW cor. Sec. 12-20-11 ..... Drlg. 2,070 ft.

OUACHITA PARISH

Inabent & Pipes' No. 3 Van Horn, 660 ft. N and E, SW cor. SW NE Sec. 14-18-4 ..... Began drlg. June 21; set 10-in. 105 ft; drlg. 3,146 ft.

SABINE PARISH—ZWOLLE

Baird Bros.' No. 1 Trammell, 600 ft. N, 330 ft. W, SE cor. NE Sec. 30-8-11 ..... S.D. for csg. 2,370 ft.

Bryant & Lucas' No. 1 Andries, 360 ft. S, 360 ft. W, NE cor. NW SE Sec. 15-7-11 ..... S.D. 41 ft.

J. C. Chandler's No. 1 Rains, SW cor. NW Sec. 14-7-11.. Rigging up.

Crescent Drlg. Co.'s No. 1 Billbray, 330 ft. N and W, SE cor. SE SW Sec. 29-8-11 ..... Rig up.

Dyer et al's No. 1 McCollister, 330 ft. S and E, NW cor. SW NE Sec. 24-7-12 ..... Derrick.

T. E. Kelly's No. 1 McClanahan, 1,000 ft. S, 330 ft. E. NW cor. SW NW Sec. 36-8-11 ..... Derrick pattern.

H. C. Maulding's No. 1 DeLatin, Sec. 3-7-11 ..... Drlg. 2,050 ft.

Ben Merritt et al's No. 1 L. A. Cook, 336 ft. N, 333 ft. W, SE cor. Sec. 34-8-11 ..... W.O.S.R.; 1,000 ft. oil in hole; T. D. 2,560 ft.

Service Drlg. & Royalties Corp.'s No. 2-B Gardner, 330 ft. S and W, NE cor. SW NW Sec. 7-7-10 ..... Used acid; W.O.; T.D. 2,835 ft.

C. H. Tuttle's No. 4 Byrd, 600 ft. S, 930 ft. E, NW cor. NW NW Sec. 7-7-10 ..... Derrick.

Mississippi

HINDS COUNTY

Meredith Trading Co., Inc.'s No. 1 Crane-Lawrence, Sec. 23-6n-1e, 1,178 ft. S, 218 ft. W, NE cor. NW SW ..... Began drlg. June 23; 10-in. 752 ft; drlg. 1,650 ft.

RANKIN COUNTY

J. A. Alexander, tr.'s No. 1 Love Pet. Co., 600 ft. W, 240 ft. S, NE cor. NW NE Sec. 1-5-1e ..... Rig up.

Muse & Muse's No. 1 Carlton, Sec. 13-5n-1e, 650 ft. E, 725 ft. N, SW cor. ..... Cmtd. 10-in. 752 ft.; drlg.

Gulf Coast Fields and Wildcats

(Continued from Page 55)

Yount Lee Oil Co.'s No. 22 Chambers County, Wm. Bloodgood Sur., 200 ft. from W line, 2621½ ft. from N line of lease ..... T.D. 2,657 ft; cmtd. to 2,236 ft; drlg. salt 2,468 ft.

LOST LAKE—CHAMBERS COUNTY

Pure Oil Co.'s No. 18 Mayes, E. H. R. Wallis Sur., 205 ft. N and 425 ft. W of No. 1 Lost River ..... Drlg. sticky shale 173 ft.

RABBS RIDGE—FORT BEND COUNTY

Cullen & West's No. 3 Whitmore, Samuel Kennedy Sur., 201 ft. from S line, 120 ft. from W line of tract .... No report.

Gulf Prod. Co.'s No. 2 Hammerstram, Samuel Kennedy Sur. ..... T.D. 5,424 ft; cmtd. csg.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 9 T. R. Booth, J. Rabb Sur. ..... Drlg. sandy lime 3,620 ft.

Humble O. & R. Co.'s No. 1 R. A. Wolters, R. Peebles Sur., 325 ft. from N line, 400 ft. from E line ..... Comp. 14 bbls. per hour; ⅝-in. choke, 5,390 ft.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 17-A F. I. Booth, S. Kennedy Sur., 932 ft. E of No. 15 ..... Comp. 46 bbls. per hour; ⅝-in. choke, 5,880 ft.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 7-A Geo. J. Rabb Sur., 1,744 ft. from W line, 454 ft. from S line ..... Drlg. shale 2,398 ft.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 16 H. P. Lockwood, J. Rabb Sur., 1,450 ft. E of No. 12 ..... Drlg. shale 5,067 ft.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 20-A Lockwood & Sharp, 1,867 ft. from W line, 349 ft. from S line of lease ..... Drlg. gumbo 1,090 ft.

Powers Prod. Co.'s No. 1 Fred Weisse, Samuel Kennedy Sur., 300 ft. N of S line in center E and W of 10-ac. tract ..... Drlg. shale 4,287 ft.

HIGH ISLAND—GALVESTON COUNTY

Yount Lee Oil Co.'s No. 1-B Broussard & Orme, 126 ft. E of center of W line of M. Dunman Sur. ..... Drlg. shale and lime 1,820 ft.

Yount Lee Oil Co.'s No. 35 Cade, N. Fitzsimmons Sur., 600 ft. S of No. 34 ..... No report.

Yount Lee Oil Co.'s No. 36 Cade, N. Fitzsimmons Sur., 600 ft. from S line, 340 ft. E of No. 34 ..... Drlg. hard sand and shale 4,201 ft.

Yount Lee Oil Co.'s No. 16 Smith, Martin Dunman Sur., 300 ft. SE of No. 13 and parallel to land line ..... Comp. 320 bbls. P.I. oil; ¼-in. choke, 5,797 ft.

Yount Lee Oil Co.'s No. 17 Smith, M. Dunman Sur., 300 ft. SW of No. 14 ..... Drlg. sand and shale 4,378 ft.

Yount Lee Oil Co.'s No. 18 Smith, M. Dunman Sur., 175 ft. S of No. 9 ..... Drlg. shale 900 ft.

BATSON—HARDIN COUNTY

Danciger O. & R. Co.'s No. 1 Hooks, 95 ft. S, 150 ft. W of NE cor. of Strip 13, Donoghue Sur. ..... Sand S.O. 4,698 ft; reaming.

PIERCE JUNCTION—HARRIS COUNTY

Rio Bravo Oil Co.'s No. 11-A Bettegast (W.O.), J. Kopman Sur., 650 ft. from N line, 350 ft. from E line of lease ..... T.D. 4,889 ft; sidetracked 4,155 ft. and drilled to sand 4,325-64 ft; cmtd. csg.

TOMBALL—HARRIS COUNTY

Continental Oil Co.'s No. 1 Agnes Theis, Joseph House Sur., 3,474 ft. from S line, 185 ft. from W line of 50-ac. tract ..... Spudded.

Humble O. & R. Co. and Magnolia Pet. Co.'s No. 1 Amiel Doege, C. Goodrich Sur., 1,399 ft. N, 1,013 ft. W of SE cor. 90.63 acres ..... Derrick.

Humble O. & R. Co. and Magnolia Pet. Co.'s No. 1 Fritz Kohs, J. N. Hooper Sur., 1,645 ft. S, 330 ft. W, of NE cor. of lease ..... Sand 5,554-70 ft; cmtd. 7-in. csg. 5,554 ft.

Humble O. & R. Co. and Magnolia Pet. Co.'s No. 1 G. W. H. Martens, lower W. Hurd Sur., center of 320-ac. tract ..... Sand 5,517-38 ft; cmtd. 7-in. csg. 5,514 ft.

Humble O. & R. Co. and Magnolia Pet. Co.'s No. 1 Herbert Reid, Chauncy Goodrich Sur. ..... Rig.

Humble O. & R. Co. and Magnolia Pet. Co.'s No. 1 Emil Schultz, 1,107 ft. N, 900 ft. E of SW cor. of 133.71 acres ..... Derrick.

Magnolia Pet. Co. and Humble O. & R. Co.'s No. 1 Wm. Rudel (63 acres), Joseph House Sur., 350 ft. out of SW cor. of lease ..... Set 36 ft. of 5-in. screen in sand 5,503-24 ft; est. 20,000,000 ft. dry gas; ⅝-in. choke; tubing pressure 1,340 lbs.; csg. pressure 566 lbs.

Lavender & Smith's No. 1 Herman Teske, J. Duckworth Sur., 150 ft. from S line, 184 ft. from E line of 160-ac. lease ..... Drlg. gumbo 1,396 ft.

SARATOGA—HARDIN COUNTY

Rio Brave Oil Co.'s No. 98 Jordit, Jordit Sur. ..... Rig.
Seven Wells Corp.'s No. 1 Teels, T. C. Gaines Sur., NW cor. of 883-ac. tract ..... Drlg. sandy shale 5,385 ft.

HULL—LIBERTY COUNTY

W. B. Flynn's No. 1 Cantor, Jesse DeVore Sur., 150 ft. E and 100 ft. N of SE cor. of tract ..... No report.
Mirmar Oil Co.'s No. 1 Hannah, Jesse DeVore Sur., 750 ft. from E line, 250 ft. from N line of 10-ac. tract.. Heaving shale 4,010 ft.
The Texas Co.'s No. 8 Hannah (W.O.), Jesse DeVore Sur. ..... Drlg. sticky shale 5,087 ft.

CONROE—MONTGOMERY COUNTY

Alpha Pet. Co.'s No. 6 Keystone Mills, Lemuel Smith Sur., 933 ft. SW of No. 2 ..... Drlg. shale 5,050 ft.
Alpha Pet. Co.'s No. 7 Keystone Mills, Lemuel Smith Sur., 933 ft. W of No. 1 ..... Drlg. shale 2,850 ft.
Alpha Pet. Co.'s No. 4-A Krohn, S. H. Bryan Sur., 791 ft. N of No. 3-A ..... Comp. 45 bbls. per hour; ½-in. choke, 5,135 ft.

Alpha Pet. Co.'s No. 1-B Krohn, S. H. Bryan Sur., center of 20-ac. tract ..... Rigging up.
Bishop Oil Corp.'s No. 2 Smith & Ratcliff, W. S. Rhodes Sur., 292 ft. from W line, 316 ft. from S line of lease ..... Drlg. 600 ft.
E. S. Craft's No. 1 Granger, T.&N.O. Sur. No. 14, 467 ft. out of NW cor. of 77-ac. lease ..... T.D. 5,057 ft; trying to W.O.
H. M. Crighton's No. 1-B South Tex. Dev. Co., T.&N. O. Sur. No. 5, center of tract ..... T.D. 5,129 ft; cmtd. csg.
Gulf Coast Drlg. & Prod. Co.'s No. 9-A Keystone Mills, A. S. James Sur., 933 ft. NE of No. 8, 466 ft. from NW line of lease ..... Drlg. shale 2,810 ft.
Gulf Coast Drlg. & Prod. Co.'s No. 10-B Keystone Mills, A. Steele Sur., 434 ft. from W line, 466 ft. from S line ..... Comp. 100 bbls. per hr.; ½-in. choke, 5,122 ft.

Harrison & Abercrombie's No. 2 Massey, T.&N.O. Sur. No. 16, 364 ft. ft. out of NE cor. of lease ..... Drlg. shale 1,825 ft.
Hooper-Rutherford's No. 4 Hooper, I.&G.N. Sur. No. 649.. Comp. 50 bbls. per hour; ½-in. choke, 5,119 ft.

Houston Oil Co. and Tide Water Oil Co.'s No. 7 Cartwright, John Davis Sur. ..... Cmtd. 10-in. csg. 907 ft.
Houston Oil Co.-Tide Water Oil Co.'s No. 4 Dobbins, Ransom House Sur., 328 ft. W of No. 5 ..... Drlg. shale 3,822 ft.
Houston Oil Co. and Tide Water Oil Co.'s No. 7 Hamman, C. B. Stewart Sur., 467 ft. from S and W lines of lease ..... Drlg. shale and sand 3,455 ft.
Houston Oil Co.-Tide Water Oil Co.'s No. 2 Moore, L. Smith Sur., 250 ft. N line, 456 ft. W line of lease... Drlg. shale and shells 4,296 ft.
Houston Oil Co.-Tide Water Oil Co.'s No. 3 Moore, L. Smith Sur., 466 ft. out of SE cor. lease ..... Comp. 115 bbls. per hr.; ½-in. choke, 5,060 ft.

Humble O. & R. Co.'s No. 10 Dobbins, Ranson House Sur., 425 ft. N line, 466 ft. E line of lease ..... Coring sand 5,028 ft.
Humble O. & R. Co.'s No. 1 Easterly, C. A. West Sur., 330 ft. from E line, 15 ft. from N line of Blk. 18.... Drlg. shale 1,893 ft.
Humble O. & R. Co.'s No. 5-B Hirsch, D. McIntyre Sur., 330 ft. from E line, 350 ft. from S line ..... Spudded.
Humble O. & R. Co.'s No. 7 Emory, W.C.R.R. Sur. No. 13, 1,020 ft. N of No. 3 ..... Comp. 55 bbls. per hour; ½-in. choke, 5,147 ft.

Humble O. & R. Co.'s No. 37 Madeley, Ransom House Sur., 410 ft. from NW line, 281 ft. from NE line.... Drlg. shale 1,223 ft.
Humble O. & R. Co.'s No. 20 Moore, L. Smith Sur., 998 ft. SW of No. 28 ..... Comp. 71 bbls. per hour; ½-in. choke, 5,128 ft.

Humble O. & R. Co.'s No. 36 Moore, Lemuel Smith Sur... Drlg. shale 936 ft.
Humble O. & R. Co.'s No. 41 Moore, Lemuel Smith Sur., 2,097 ft. SW, 200 ft. SE at right angles out of most easterly NE cor. of lease ..... Drlg. shale 4,112 ft.
Humble O. & R. Co.'s No. 36 South Tex. Dev. Co., Theo. Slade Sur., 1,010 ft. NE of No. 35 ..... Drlg. shale 981 ft.
Humble O. & R. Co.'s No. 1 Rogers, C. A. West Sur., 410 ft. from N line, 300 ft. from E line of lease .... Drlg. shale 1,766 ft.
Humble O. & R. Co.'s No. 1 Woodson, C. A. West Sur., 9 ft. from N and W lines of Lot 47 ..... Spudded.
Humble O. & R. Co.'s No. 1 O. Wooten, J. A. Davis Sur., 270 ft. from S line, 200 ft. from W line ..... T.D. 5,139 ft; cmtd. csg.
Humble O. & R. Co.'s No. 4 Wiggins & Athey, L. Smith Sur., 865 ft. SW of No. 1 ..... Comp. 68 bbls. per hour; ½-in. choke, 5,135 ft.

Navarro Oil Co.'s No. 2 Brown, E. P. Brown Sur. ..... Drlg. shale 3,385 ft.
Navarro Oil Co.'s No. 3 Brown, 114 ft. N of center of S line of E. B. Brown Sur. ..... Coring oil sand 5,100 ft.
R. D. Simonton, receiver's No. 1 Hooper, J. W. Watson Sur., center of S 20 acres of 60-ac. tract ..... Drlg. shale 3,831 ft.
Strake Pet., Inc.'s No. 4 Ethridge, S. H. Bryan Sur., 712 ft. W of No. 3 ..... Drlg. shale 2,200 ft.
Sun Oil Co.'s No. 10 Foster, John Bricker Sur., 933 ft. SE of No. 5 ..... Drlg. sand and shale 5,080 ft.
Sun Oil Co.'s No. 1 McDonald, Wilson Strickland Sur., 469 ft. from W line, 469 ft. from N line ..... Drlg. shale 4,462 ft.
The Texas Co.'s No. 8 Rhodes, 330 ft. S of S line of C. A. West Sur., and 330 ft. W of W line of John Massey Sur. in W. S. Rhodes Sur. ..... Comp. 105 bbls. per hr.; ½-in. choke, 5,110 ft.

The Texas Co.'s No. 14 Rhodes, W. S. Rhodes Sur., 1,660 ft. from W line, 1,470 ft. from S line ..... T.D. 5,010 ft; drill pipe stuck.
The Texas Co.'s No. 15 Rhodes, W. S. Rhodes Sur., 303 ft. from N line, 388 ft. from E line of lease ..... T.D. 5,032 ft; cmtd. 7-in. csg. 5,-023 ft.

The Texas Co.'s No. 16 Rhodes, W. S. Rhodes Sur., 330 ft. S of N line, 467 ft. E at right angles from W line. Drlg. shale 4,887 ft.
Tide Water Oil Co.'s No. 4 Eichleitz, Lemuel Smith Sur. Comp. 48 bbls. in ½ hr.; ½-in. choke, 5,095 ft.

Tide Water Oil Co.'s No. 3 Granger, T.&N.O. Sur. No. 14, 467 ft. from N line and 933 ft. E of No. 1..... Swabbed 53 bbls. in 4 hrs.; ¼-in. choke, 5,058 ft.

Tide Water Oil Co.'s No 9 Dean, W. C. C. Lynch Sur., 330 ft. from N line, 990 ft. from W line of lease ... Coring shale 5,023 ft.
Tide Water Oil Co.'s No. 10 Dean, W. C. C. Lynch Sur., 2,349 ft. from E line, 467 ft. from S line ..... Cmtd. csg. 5,043 ft.
Tide Water Oil Co.'s No. 11 Dean, W. C. C. Lynch Sur... Drlg. shale and shells 1,866 ft.
Tide Water Oil Co.'s No. 5 Krohn, S. H. Bryan Sur., 990 ft. from E line, 330 ft. from S line of lease .... Drlg. sand and shale 4,090 ft.
Tide Water Oil Co.'s No. 21 Lewis, C. B. Stewart Sur., 467 ft. out of SE cor. "B" tract ..... Drlg. broken gas sand and shale 5,018 ft.

Tide Water Oil Co.'s No. 22 Lewis, C. B. Stewart Sur., 1,400 ft. from W line, 2,015 ft. from S line "A" lease. Comp. 80 bbls. per hour; ¼-in. choke, 5,124 ft.

LIVINGSTON—POLK COUNTY

Dick Schwab's No. 2 Holmes-Davis, A. Viesca Sur., 157 ft. out of SW cor. 80-ac. tract ..... Drlg. gumbo 895 ft.
Shell Pet. Corp.'s No. 1 Munson, A. Viesca Sur., 330 ft. out of NE cor. of tract ..... Drlg. sand and shale 4,276 ft.

MYKAWA—HARRIS COUNTY

Frederick & Coffelt's No. 1 Irwin, Wm. Lovett Sur., 300 ft. S and E from J. A. Platt vs. G.C.&S.F. conflict cor. of 5,959-ac. tract, W. B. Walker Sur. ..... No report.

ORCHARD—FORT BEND COUNTY

Gulf Prod. Co.'s No. 36 Moore, Mark Smith Sur., 4,795 ft. S along E line from NE cor. and 325 ft. W at right angles ..... Rig.

PANNETT—JEFFERSON COUNTY

Gulf Prod. Co.'s No. 2-A Junker, W. A. Smith Sur., 100 ft. from N line, 320 ft. from E line of lease ..... Rigging up.

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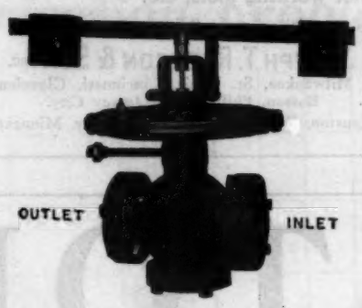

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PORT NECHES—ORANGE COUNTY

The Texas Co.'s No. 1 Orange Nat. Bank, 150 ft. out of NW cor of lease, Jacob Beaumont Sur. ..... Drlg. sticky shale 4,442 ft.

GRETA—REFUGIO COUNTY

Atkins & O'Neil's No. 1 O'Brien, 940 ft. N of S line of J. T. McGrew Sur., 750 ft. W of R.R. ..... Drlg. shale 3,906 ft.

E. H. Buckner's No. 1 J. M. O'Brien, 150 ft. S of N line of N. S. Crunk Sur. and 150 ft. NW of St. L.&B. M. R.R. ..... Set 30 ft. of 5-in. screen 4,405 ft; flowing 1,470 bbls. of P.L. oil, 11/64-in. choke; 1,000 lbs. tubing pressure; 1,500 lbs. csg. pressure.

Luling O. & G. Co. and Morgan's No. 1 J. M. O'Brien, N. S. Crunk Sur., 150 ft. out of most easterly cor. of 50-ac. tract ..... Cmtd. 10-in. csg. 1,300 ft.

M. C. McGeehee's No. 1 O'Brien, 3,500 ft. W of most easterly E line and 3,150 ft. N of most southerly S line of E. H. Winfield Sur. ..... Set 40 ft. of 5-in. screen 4,402 ft; comp. 740 bbls. P.L. oil; two ¾-in. chokes.

Morgan et al's No. 1 O'Brien, N. S. Crunk Sur., 150 ft. out of NE cor. of lease ..... Rigging.

W. L. Pearson's No. 2 Wilson Heard, M. J. Xmines Sur., 330 ft. out of NE cor. of lease ..... T.D. 390 ft; blew out; 20-in. csg. dropped 120 ft; killed blowout.

Joe E. Smith's No. 1 O'Brien, 1,500 ft. N of most southerly S line and 1,800 ft. E of most westerly E line of E. H. Winfield Sur. ..... Derrick.

Vidauri Oil Co.'s No. 1 Welder, 330 ft. S of N line of James T. McGrew Sur., and 700 ft. W of R.R. .... Cmtd. 7-in. csg. 3,500 ft.

REFUGIO—REFUGIO COUNTY

United Prod. Corp.'s No. 1-A M. F. Lambert, 666 ft. from N line, 823 ft. from W line of Hews & Brown Sur. ..... No report.

SOUTH LOUISIANA FIELDS

ASSUMPTION PARISH

Barnsdall Oil Co.'s No. 1 Williams, 330 ft. out of NE cor. Sec. 38-14s-14e ..... Shale 5,100 ft; hole caving.

BEAUREGARD PARISH

Burnham & Johnson's No. 1 Long Bell, 725 ft. S, 155 ft. E of NW cor. NW NW Sec. 34-2s-3w ..... Sand and shale 3,076 ft; S.D.

CALCASIEU PARISH

Quintana Oil Co.'s No. 1 Nelson, 1,515 ft. N, 85 ft. W of SW cor. Sec. 23-10s-9w ..... Drlg. 3,810 ft.

Union Sulphur Co.'s No. 1 Stout, 1,237 ft. N, 1,167 ft. W of SE cor. Sec. 36-8s-8w ..... Drlg. shale 5,605 ft.

CAMERON PARISH

The Texas Co.'s No. 8 State-Calcasieu Lake, 14,255 ft. W, 2,270 ft. N of NE cor. Sec. 1-14s-9w ..... Drlg. anhydrite 2,725 ft.

CAMERON MEADOWS—CAMERON PARISH

Burton-Sutton Oil Co.'s No. 1 School Land, 500 ft. W and 20 ft. N of SE cor. Sec. 16-14s-13w ..... Drlg. wtr. sand 5,360 ft.

CHOCTAW—IBERVILLE PARISH

Standard Oil Co.'s No. 4 Myrtle Grove, 2,250 ft. S, 150 ft. W of NE cor. NW Sec. 52-9s-11e ..... No report.

DARROW—ASCENSION PARISH

Rio Bravo Oil Co.'s No. 1 Community, 200 ft. N line, 1,500 ft. E at right angles from SW cor. Sec. 15-10s-2e ..... T.D. 4,020 ft; set whipstock 3,780 ft.; milling out 3,766 ft.

GUEYDAN—VERMILLION PARISH

Pure Oil Co.'s No. 4 Alliance Trust Co., 578 ft. from N line and 1,921 ft. from W line of Sec. 34-11s-1w .. Drlg. sand rock 3,049 ft.

Pure Oil Co.'s No. 5 Alliance Trust Co., 525 ft. from N line, 530 ft. from W line of Sec. 34-11s-1w ..... Drlg. sand 3,877 ft.

Pure Oil Co.'s No. 2 Mulvey, Sec. 34-11s-1w, 1,515 ft. from N line, 1,150 ft. from E line of tract ..... Abd. 4,850 ft.

LOCKPORT—CALCASIEU PARISH

Magnolia Pet. Co.'s No. 8 State Bayou D'Inde, 865 ft. E, 570 ft. N of SW cor. NE Sec. 8-10s-9w ..... Set screen 6,426 ft.

Union Sulphur Co.'s No. 5 Martha Moss, Sec. 8-10s-9w .. Drlg. 1,650 ft.

BLACK BAYOU—CAMERON PARISH

Shell Pet. Corp.'s No. 15 Watkins, 1,890 ft. from N line and 680 ft. from E line of Sec. 18-12s-12w ..... No report.

HACKBERRY—CAMERON PARISH

Gulf Ref. Co.'s No. 12 Irwin, 865 ft. N, 513 ft. E of SW cor. Sec. 44-12s-9w ..... Drlg. 2,310 ft.

Wilfred Lahey's No. 1 Aroux, center 2-ac. tract, Sec. 36-12s-10w ..... No report.

Pop Oil Co.'s No. 1 Yount Lee, 2,996 ft. W and 100 ft. N of SE cor. Sec. 19-12s-10w ..... S.D. 450 ft.

Union Sulphur Co.'s No. 6 Gulf Land-Humble Lease, Sec. 11-12s-10w, 245 ft. W and 210 ft. S of No. 4.... No report.

IOWA—CALCASIEU AND JEFF DAVIS PARISHES

Magnolia Pet. Co.'s No. 1 Bowman, 330 ft. out of NE cor. 8½ NW Sec. 12-9s-7w ..... Drlg. sticky shale 6,804 ft.

Magnolia Pet. Co.'s No. 4 Waite, Sec. 12-9s-7w, 330 ft. from E line, 660 ft. S of No. 3 ..... Derrick.

Magnolia Pet. Co.'s No. 1 Willett, 330 ft. N and E out of SW cor. NW Sec. 7-9s-6w ..... Set screen 6,939 ft.

Shell Pet. Corp.'s No. 4 Fontenot, Sec. 7-9s-6w, 330 ft. out of NW cor. of lease ..... T.D. 6,905 ft; reaming.

Shell Pet. Corp.'s No. 4 Heyd, 2,122 ft. W, 1,310 ft. S of NE cor. Sec. 13-9s-7w ..... Blew out 4,929 ft; trying to cap.

Shell Pet. Corp.'s No. 2 Stafford, 330 ft. from W line and 265 ft. from S line of NW Sec. 18-9s-6w ..... Drlg. sticky shale 5,136 ft.

JEFFERSON DAVIS PARISH

B. D. Finley's No. 1 Clarphy-Lognion, 800 ft. N and 50 ft. W of SW NW Sec. 22-10s-4w ..... S.D. 5,008 ft.

Humble O. & R. Co.'s No. 3 Devilbiss, 1,850 ft. S, 250 ft. W of NE cor. Sec. 14-8s-4w ..... Drlg. shale and lime 7,230 ft.

JENNINGS—ACADIA PARISH

Yount Lee Oil Co.'s No. 13 Houssiere-Latrielle, Sec. 47-9s-3w, 300 ft. E of No. 12 ..... No report.

PORT BARRE—ST. LANDRY PARISH

The Texas Co.'s No. 1 Thompson, 2,593 ft. N, 477 ft. E of SW cor. Sec. 20-6s-5e ..... Abd. 3,660 ft.

STARKS—CALCASIEU PARISH

Union Sulphur Co.'s No. 1 Industrial, 1,910 ft. S, 2,254 ft. W of NE cor. Sec. 30-9s-12w ..... Sand 3,694 ft.

Union Sulphur Co.'s No. 2 Industrial, 1,245 ft. N, 390 ft. E of SW cor. Sec. 20-9s-12w ..... Drlg. sandy shale 3,696 ft.

SWEET LAKE—CAMERON PARISH

Pure Oil Co.'s No. 11 Yount Lee, Sec. 13-13s-8w, 800 ft. S 66 deg. 43 min. from No. 9 ..... Heaving shale 3,070 ft; P.B. to 7,210 ft; sidetracked at 7,154 ft. to oil sand 7,350 ft.; cmtd. 5½-in. csg. 7,333 ft.; drlg. plug and setting screen.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 744 fee (W.O.), 2 ft. S, 34 ft. W of C Sec. 29-9s-10w ..... Drlg. sand 5,160 ft.

Union Sulphur Co.'s No. 747 fee, 750 ft. W, 5 ft. S of C Sec. 29-9s-10w ..... Drlg. sandy shale 3,803 ft.

Union Sulphur Co.'s No. 743 fee, Sec. 29-9s-10w ..... Drlg. shale 5,000 ft.

ST. MARTIN PARISH

Standard Oil Co. of Kansas' No. 1 E. B. Hopkins, Sec. 33-10s-6e ..... Drlg. shale 1,500 ft.

TERREBONNE PARISH

Sun Oil Co.'s No. 1 State-Tayler Bayou, 3,216 ft. S, 3,790 ft. E of NW cor. Sec. 22-21s-14e ..... Spudded.

The Texas Co.'s No. 8 State-Caillou Island, 1,050 ft. S, 2,770 ft. E of NW cor. Sec. 20-22s-20e ..... Oil sand 5,961 ft.

The Texas Co.'s No. 8 State-Dog Lake, 4,047 ft. W, 1,377 ft. N of SE cor. Sec. 31-21s-16e ..... Drlg. shale 5,419 ft.

The Texas Co.'s No. 1 State-Four Isle, 1,800 ft. N, 1,700 ft. W of SE cor. Sec. 22-21s-14e ..... Drlg. hard sand 5,150 ft.

The Texas Co.'s No. 1 School Board-Bay St. Elaine, 2,250 ft. S, 600 ft. E of NW cor. Sec. 16-22s-13e.....Drlg. shale 4,300 ft.

TEXAS

MISCELLANEOUS WILDCATS

AUSTIN COUNTY

Turnbull et al's No. 1 Watson, Stephen F. Austin Sur. No. 6, 150 ft. out of SE cor. of 115.6-ac. tract .....Rig.

BRAZORIA COUNTY

E. A. Anderson et al's No. 1 Reynold, Johnsen, Walker & Borden League, 5,502 ft. from W line, 850 ft. from W line of 122-ac. lease .....Drlg. gumbo 2,422 ft.

Amerada Pet. Corp. and Rycade Oil Corp.'s No. 4 Seaburn, Austin & Williams Sur., 150 ft. W of No. 3 on line with Nos. 1, 2 and 3 .....Drlg. lime 3,011 ft.

Danciger O. & R. Co.'s No. 2 Hunt, 6,550 ft. from E line, 5,550 ft. from S line of W. Carson Sur. .....Cleaned hole to deepen 6,884 ft.

BRAZOS COUNTY

F. H. Scott's No. 1 Klintworth, I. Curd Sur., 300 ft. NE line, 400 ft. SE line of tract .....Cmtd. surface csg.

CHAMBERS COUNTY

Mills & Jones' No. 1 Gan, John S. Roberts Sur., 255 ft. W, 1,052.72 ft. S of NE cor. of 138-ac. tract ....Sand rock 5,025 ft; S.D.

COLORADO COUNTY

Fabrigus & Poole's No. 1 Lake Side Irrigation, 1,500 ft. SE, 600 ft. NE NW cor. Patrick Real Sur. .....T.D. 1,445 ft; cmtd. 12½-in. csg. 1,150 ft.

Humble O. & R. Co.'s No. 1-B O. M. Powell, 1,399 ft. from S line, 467 ft. from W line of Sec. 45, I.&G. N. Sur. ..... Spudded.

McCullouch Oil Co.'s No. 1 Kansteiner, Lelander Beason Sur., 300 ft. out of NE cor. of tract .....Rig standing.

Weimar Oil Co.'s No. 1 H. T. Brandt, F. Pettus Sur., 250 ft. from N line, 250 ft. from E line of tract ....Drlg. sand 4,108 ft.

Weimar Oil Co.'s No. 1 Miller ranch, approx. center H.&T.B. Sur. No. 9 .....Derrick.

GRIMES COUNTY

Koch et al's No. 1 Haferkamp, Samuel Fulton Sur., 335 ft. from S line, 347 ft. from E line of 189 acres. T.D. 3,517 ft; washing to bottom.

Petroleum Southwest Co.'s No. 1 Greer, Pat O'Connor Sur., 200 ft. from W line, 400 ft. from N line of 150-ac. tract .....T.D. 2,758 ft; to deepen.

HARRIS COUNTY

Burns, Ogg & Houston's No. 1 Kenning, H.&T.B. Sur., 330 ft. S line and 550 ft. W line .....Derrick.

C. & C. Drlg. Co. and Mephail's No. 1 Erhardt, C. H. Delesdenier League .....Tested S.W. 6,486 ft; abd.

Gohlson & Parson's No. 1 W. E. Freeman, 330 ft. SE cor. Sec. 57, Blk. 2, H.&T.C.R.R. Sur. .....Rig.

Hamill Drlg. Co.'s No. 1 Clara W. Walker (38 acres), Chas. Sage, 250 ft. W of E line, 660 ft. S of south bank of Buffalo Bayou .....Derrick.

Hamilton et al's No. 1 Hargroves, W. C. Ry. Sur. No. 10, Blk. 1; 1,750 ft. from E line, 645 ft. N line ....Gumbo 2,258 ft; S.D. for wtr. well.

Huffman Dome Dev. Co.'s No. 1 E. M. House, Mary McGruder Sur., 590 ft. E of NW cor. H.E.&W.T. Ry. and 954 ft. N at right angles .....Drlg. tough gumbo 2,608 ft.

H. B. Jordan's No. 1 Cochran, J. L. Jordan Sur., 1,950 ft. S line, 1,930 ft. E line .....Shale 1,558 ft; S.D.

Melba Oil Co.'s No. 1 L. B. House, 160 ft. from N line, 600 ft. from E line, Sec. 22, Harris County School Land Sur. .....Derrick.

Jack Schultz et al's No. 1 Woodburn, 450 ft. NW of center of August Whitlock Sur. .....Drlg. hard shale 4,760 ft.

JACKSON COUNTY

The Texas Co.'s No. 1 Mitchell, S. F. Austin League, 450 ft. W, 450 ft. S of NE cor. of 63-ac. tract, Lot 28, Clement Subd. .....T.D. 5,502 ft; lost hole; sidetracked at 3,740 ft and drlg. sticky shale 4,884 ft.

JEFFERSON COUNTY

W. J. Parker's No. 1 Rorck, A. Williams Sur. .....Drlg. shale 2,379 ft.

Sun Oil Co.'s No. 1 Paggi, 990 ft. W, 1,610 ft. N of SE cor. of T.&N.O. Sur. No. 32 .....Cmtd. 13⅜-in. csg. 1,040 ft.

LIBERTY COUNTY

Yount Lee Oil Co.'s No. 1 E. W. Boyt, H.&T.C. Sur., Sec. 17, 300 ft. from S line, 2,440 ft. from E line of section .....Hard sand 9,200 ft; set (no cmt.) 7-in. csg. 9,165 ft; drlg. deeper.

MATAGORDA COUNTY

Continental Oil Co.'s No. 1 Boker, 400 ft. out of SW cor. Lot 17, Robbins & Middle Subd., J. W. Criswell Sur. .....Cmtd. 18⅝-in. csg. 82 ft.

Oils Consolidated, Inc.'s No. 1 Hawkins, 1,240 ft. NE, 250 ft. NW of S cor. of Daniel McCarthy Sur. .....Derrick.

United North & South Dev. Co.'s No. 1 Unit 6 (No. 3 Stoddard) 25 ft. each way out of NW cor. of Lot 19, Buckeye Townsite .....T.D. 7,836 ft; sidetracking 5,605 ft.

United North & South Dev. Co.'s No. 1 Unit 14 (No. 1 Dr. Plotner), 1,310 ft. SE of No. 1 Stoddard and 136 ft. W of right of way of Collegeport branch of St. L.&B.M.R.R., Buckeye .....Set 157 ft. of 5-in. screen 7,862 ft.; swbd. dry; S.D.

United North & South Dev. Co.'s No. 1 Unit 25, 1,335 ft. S, 1,000 ft. E of No. 1 Unit 6 .....Drlg. sandy shale 7,752 ft.

MONTGOMERY COUNTY

Fostoria Oil Co.'s No. 1 Foster Lbr. Co., 1,130 varas W, 627 varas N of SE cor. H.T.&B. Sur. No. 2 .....Cmtd. 10¾-in. csg. 1,090 ft.

Showers & Moncrief's No. 1 Rohlf, 694 ft. from S line, 3,325 ft. from W line of Daniel Garrett Sur. (Abst. 224) .....Derrick.

L. C. Thorpe's No. 1 Sutherland, 2,450 ft. from E line, 1,350 ft. from N line of C. McRae Sur. .....Derrick.

POLK COUNTY

C. E. Stewart's No. 1 Stephenson, E. Stevenson Sur. (Abst. 761), 1,633 ft. from N line, 920 ft. from W line of 217 acres .....Rig.

REFUGIO COUNTY

Humble O. & R. Co.'s No. 6 O'Connor, L. Serna Sur., 14,375 ft. from S line, 2,932 ft. from W line .....Dry and abd. 4,414 ft.

VICTORIA COUNTY

Gulf Prod. Co.'s No. 4 Keeran, Martin DeLeon Sur., 3,320 ft. N 41 deg. 43 min. W, parallel to NE line of lease from No. 1 .....Spudded.

The Texas Co.'s No. 6-A McFaddin, 5,600 ft. from NE line, 250 ft. from SE line of A. J. Gray .....T.D. 2,424 ft; pumping wtr. into sand 1,987-2,010 ft. to kill gas pressure.

The Texas Co.'s No. 7 McFaddin, 6,600 ft. S 15 deg. W, 460 ft. N 75 deg. W at right angles from the NE cor. of the A. J. Gray Sur. .....T.D. 1,176 ft; blowing gas and mud.

WALLER COUNTY

Hobson & Moore's No. 1 Peters, Justo Llendo Sur., 590 ft. W of creek, 1,144 ft. N of S cor. .....Cmtd. 15½-in. csg. 120 ft.

Trapshooter Reilly Oil & Royalty Co.'s No. 1 Menke, Justo Llende Sur., 600 ft. at right angles from NW line at 250 ft. at right angles from E line of 330-ac. tract .....Dry and abd. 5,027 ft.

WHARTON COUNTY

Pure Oil Co.'s No. 1 Stewart, 2,419 ft. NW, 1,650 ft. NE of S cor. of Sec. 25, Morris & Cummings Sur. .....T.D. 8,015 ft; to P.B. to sand at 5,963-71 ft.

Pure Oil Co.'s No. 1 Chas. T. Kuntze, 2,183 ft. from NW line, 467 ft. from SW line, Sec. 27, Morris & Cummings Sur. ..... Sticky shale 1,186 ft; cmtd. 10¾-in. csg. 1,185 ft.

Smith & McDannald and Shell Pet. Corp.'s No. 1 Ridgeway, 1,980 ft. from S, 660 ft. from W of NE cor. Sec. 8, H.&T.C. Sur. .....Rigging up.

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NATURAL GAS DEVELOPMENTS

C. H. Rupp Is Treasurer of Peoples Natural Gas

PITTSBURGH, Pa., July 10.—Election of Charles H. Rupp as treasurer and director of the Peoples Natural Gas Co. and its affiliates at Pittsburgh is announced by John B. Tonkin, president of the company. Mr. Rupp, who has been

CHARLES H. RUPP

assistant treasurer since 1909, succeeds R. D. Beardsley, who retired on July 1, after a service of more than 34 years with the Peoples and affiliated companies.

Mr. Rupp has spent all his business life in the natural gas industry. Born and educated in Buffalo, N. Y., he was first employed by the Buffalo Natural Gas Fuel Co. in 1898. He came to Pittsburgh in 1904, and was later made assistant treasurer for the Hope Natural Gas Co., taking over a similar position in 1909 for the Peoples company and its subsidiaries.

Selection of S. J. Ratcliffe as assistant treasurer of the company was also announced. Mr. Ratcliffe, who is also a native of Buffalo, is a son of George W. Ratcliffe, president of the Manufacturers Light & Heat Co. He has served the Peoples company since 1912, both in the field and in the home office, most recently as chief clerk in the treasury department.

Federal Economy Hits Amarillo Helium Plant

AMARILLO, Tex., July 10.—Government economy has hit the United States helium plant near Amarillo, slashing approximately $5,000 from the $9,000 monthly payroll.

Several of the plant employes were cut from the payroll July 1, including F. A. Vestal, assistant superintendent of the helium division, U. S. Bureau of Mines, and the oldest man in the division from the standpoint of service. He was superintendent of the Government's first plant near Fort Worth.

Forty men, including the office manager and several engineers, were included in the cut. About 25 will be retained. The helium division has not been notified by the budget director of the amount of its appropriation.

The Navy has approximately 14,400,000 feet of helium in storage now.

Decision on Valuation of Properties and Reasonableness of Natural Gas Rates

An outstanding decision on the problem of valuation of properties of a natural gas utility and the reasonableness of natural gas rates has been announced by the Supreme Court of Ohio, and reported in the United States Weekly Law Journal. The case was that of the Columbus Gas & Fuel Co. vs. Public Utilities Commission of Ohio; City of Columbus. vs. same; Ohio Sup. Ct., Nos. 23,864, 23,867, 23,868, June 21, 1933. The decision says:

Where all the stock, except qualifying shares, of a city natural gas distributing company, of a state distributing and producing company from which the city company purchased its gas, of an interstate producing company from which the state company purchased a portion of its gas, and of an engineering and management corporation furnishing management and engineering service to the other three companies, was owned by the same parent corporation, the Ohio Public Utilities Commission, in determining whether the rate fixed by an ordinance for the city company's distribution of gas in the city was confiscatory, was empowered to determine the reasonableness of the rate charged the state corporation by the producing company and the rate charged the local company by the state company, since the properties of all the corporations were so thoroughly integrated and interconnected as to constitute a single operating unit.

In fixing a reasonable rate for the sale of gas by the producing company to the state company the commission, in ascertaining the valuation of the producing company's property and its production expenses, erred in making an allowance for delayed rentals for nonproducing acreage although the gas was produced in West Virginia and the West Virginia commission in a case involving the property of such producing corporation had made an allowance for such delayed rentals in ascertaining its production expenses. Since the question before the Ohio commission involved the rate to be paid in Ohio for gas delivered in Ohio the commission was required to give effect to the law of Ohio, which does not permit such an allowance, and not to the law of West Virginia.

In fixing the proper allocation of the state company's property used and useful in furnishing gas to the city for the purpose of determining the reasonableness of the city gate rate, the commission erred in sustaining the company's contention that there should be no particular allocation either of the transmission or the production property to any one market except upon the basis of sales or consumption of gas, and in overruling the city's contention that the production property should be allocated upon the basis of sales but that the transmission property should be allocated to the particular market upon the basis of mileage multiplied by the peak demands of the particular city. The evidence showed that some of the state distributing company's transmission lines did not contribute to the city's gas supply and the method of allocation adopted by the commission required the city's gas rate to share the cost, maintenance or depreciation of such lines. In Ohio, where the unit established by the constitution for dealing with public utility service is the municipality, the proper unit of allocation is the locality and not the system.

The commission also erred in valuing leaseholds of the state company used in the conduct of its business at more than the present book value thereof. The valuation could not be based upon market price, since there was no market for gas property so extensive as that of the company.

The commission also erred in making an allowance for amortization based upon the life expectancy of the producing wells. In ascertaining the value of the property of a public utility for the purpose of fixing a rate base the commission has no discretion but must proceed in accordance with the formula prescribed by the statutes of the state. Such statutes do not provide for amortization. A provision authorizing an allowance for depreciation "if any, from the new reproductive cost as of a date certain, for existing mechanical deterioration, for age, for obsolescence, for lack of utility or for any other cause," did not justify an allowance for amortization on the theory that it was an allowance for depreciation "for any other cause" within the meaning of the statute. An allowance for amortization would place an unwarranted burden upon the present consumers of gas. The stockholders of the company at no time had any right to anticipate that the law would hand them back their original investmets. The company in support of its contention that it was entitled to such an allowance pointed to the testimony of practical gas men to the effect that they could not predict a longer life than 25 years for the company. The court in rejecting the contention stated that "practical experience teaches us that this is a mere prophecy. The gas business will continue so long as natural gas can be taken from the earth in the fields controlled by the parent corporation, in paying quantities. History along this line reveals the fact that the testimony of experts as to the probable life of natural gas is unreliable, and it is for this reason that amortization is guesswork."

Nor was the company entitled to an allowance for amortization as to equipment. "That the product natural gas will eventually die is self-evident. When it will die is an assumption. An assumption is no stronger than the facts that support it, and it is just as fair to assume that much of the equipment now used in the transportation and distribution of natural gas will be utilized for the transportation and distribution of artificial gas in the future."

LAREDO INJUNCTION

AUSTIN, Tex., July 10.—A temporary injunction was granted by Federal Judge T. M. Kennerly at Houston, on application of the United Gas Public Service Co., restraining the Texas Railroad Commission and Governor Miriam A. Ferguson from enforcing an order of the railroad commission reducing the gas rate of the city of Laredo. The order called for reduction from 75 cents to 55 cents, while the company had petitioned an increase to a $1.50 base for the first 1,000 feet. Hearing was set by the Federal judge for July 31, before a three-judge court to determine permanence of the injunction.

Customers Are Informed of Burden of Taxation

FORT WORTH, Tex., July 10.—The Lone Star Gas Co., through Wesley F. Wright, manager of the Fort Worth division of the company, has issued a statement explaining its action in printing a statement on the face of gas bills concerning the amount of taxes paid by the company.

The printing of the statement, which pointed out that the company pays an average of 56 cents in taxes on every monthly gas bill, was criticized by City Councilman Martin, who claimed the statement was printed only on bills of less than $3 and that the percentage should be nearer 17 cents than 56 cents.

Mr. Wright explained that the statement "will appear on all gas bills for several months in keeping with the company's custom of printing some form of advertising or information on the face of the bill."

The statement on the cards reads:

"An average amount of 56 cents for every monthly gas bill rendered on Lone Star Gas system is required for taxes. The company has no control over this item of expense which must be included in the cost of natural gas service rendered to you."

The statement issued by Mr. Wright follows:

"This average of 56 cents for every bill applies to the entire system of the Lone Star Gas Corp., but since those bills were printed, it has been found that the new capital stock tax of the Federal Government will increase the amount to at least 60 cents per bill. The average for the Fort Worth division alone will be about 70 cents per bill.

"The natural gas industry in Texas, and ultimately the gas consumers, is required to pay four special levies in addition to many other taxes. Two of these are levies which no other utility is required to pay. The gas companies pay an annual franchise tax. The gas distribution companies pay one-half of 1 per cent of their gross receipts in all cities and towns with a population of from 2,500 to 10,000, and 1 per cent of their gross receipts in towns over 10,000. A gross production tax of 2 per cent is levied on all natural gas, and the fourth special tax is a levy of one-fourth of 1 per cent on the gross receipts of pipe line companies.

"In addition to these special state taxes, the gas companies are required to pay revenue stamp taxes, ad valorem taxes levied by road districts, water improvement districts, levee districts, independent school districts, Federal income taxes, and ad valorem taxes levied by various cities, counties and states government.

"Such taxes must be charged as an operating expense to the customer because the law makes the company merely a collector of the tax. The company has no other source of revenue from which to pay taxes or other operating expenses than the rates charged for its service."

ST. LOUIS HEARING

JEFFERSON CITY, Mo., July 10.—The public service commission has set July 17 for hearing the complaint of the city of St. Louis against the rates of the Laclede Gas Light Co. The city, through its counselor, is asking for a 20 per cent reduction. The filing of the request for a 20 per cent reduction caused the commission to cancel a hearing, set for July 13, on an earlier request by the city for a 5 per cent reduction.

PERSONAL PARAGRAPHS

David C. Ball, president of Oakite Products, sailed for Europe last week, accompanied by Mrs. Ball.

* * *

Hugh Fitzsimmons, of Shreveport, La., has purchased a residence in San Antonio, Tex., and is moving to that city.

* * *

Roy H. Hornidge, of the Union Oil Company of California, has been elected secretary-treasurer of the Los Angeles Petroleum Accountants Society.

* * *

Mr. and Mrs. J. R. McCaldin, of San Antonio, Tex., have gone to Long Island for the summer. Mr. McCaldin is an independent operator in Southwest and West Texas.

* * *

W. D. Brookover, vice president and manager of sales for the American Concrete Company, Longview, Tex., was a visitor to Tulsa last week on company business.

* * *

Maxwell M. Merritt, of the Standard Oil Company of Brazil, with headquarters at Buenos Aires, is visiting New York headquarters of the Standard Oil Company (New Jersey).

* * *

Manuel Miranda, oil distributor of Caracas, Venezuela, and J. D. Vollert, technical advisor to Lloyd Aero Boliviano, were recent visitors at Tide Water Oil Company's Bayonne refinery.

* * *

Dr. Josef Winkler, supervisor of research at a large refinery at Drohobyez, Poland, was a recent visitor in New York, concluding an American trip during which he visited many of the leading oil refineries in this country.

* * *

G. H. Collingwood, of Wichita, Kans., has been appointed head of the land department of the Lario Oil & Gas Company and has opened an office there. John O'Shaughnessy, son of I. A. O'Shaughnessy, president of the company, will be scout.

* * *

Wilson Ree Cross, deputy chairman and managing director of the Vacuum Oil Company, Ltd., was appointed chairman following the retirement of E. W. Lycette. T. G. Crocker also retired from the board, and E. C. Gordon of England, W. McCargo and Francis E. Powell were elected.

* * *

L. P. St. Clair, president of the Union Oil Company of California, and a prominent figure in the group of executives which formulated the national code for the oil industry, has been selected as an honorary citizens' executive committee member to honor Frank L. Shaw, newly elected mayor of Los Angeles, Calif.

* * *

James H. Bonner, field superintendent of the D'Angelo Oil Company, a captain in the 519th U. S. Engineers during the World War, subsequently chief engineer of the Public Service Corporation of Montana, and in 1922 valuation engineer of the Internal Revenue Department, has been elected city manager of Long Beach, Calif.

* * *

Presentations were made to the retiring president of Imperial Oil, Ltd., C. O. Stillman, and to A. M. McQueen, vice president, also retiring, on behalf of the employes of the Sarnia refinery, the company's largest plant. Arthur Kirby, former mayor of Sarnia, moved resolutions expressing appreciation of the services rendered by the retiring officials. The city of Sarnia and the Sarnia Chamber of Commerce combined to honor Mr. Stillman. Mayor Homer J. Lockhart read an address on behalf of the city and presented two paintings of lake scenes to the retiring president. A. D. McKenzie, president of the Chamber of Commerce, read an address from that organization and tendered Mr. Stillman a life membership.

H. T. Brown, cashier for the West India Oil Company at Hamilton, Bermuda, has been awarded a 10-year service button.

* * *

J. J. MacPhie, of the Asiatic Petroleum Company, accompanied by Mrs. MacPhie, sailed for Europe last week from New York.

* * *

E. Sidwell, of Columbine, Wyo., and John Fertig of Independence, Kans., visited Calgary, Alberta, recently on business connected with the Parco Oil Company.

* * *

LeRoy Williams has been placed in charge of the O. C. S. Manufacturing Company's East Texas headquarters at Kilgore. R. D. Extrand has been appointed representative in the field.

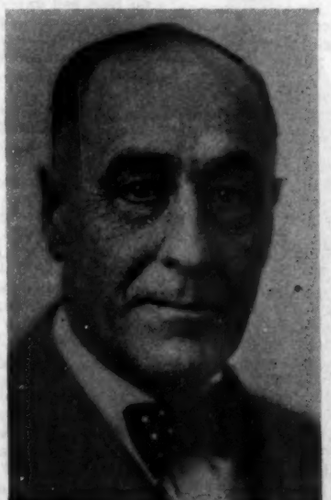
* * *

D. M. Pidgeon, formerly sales manager of the Toronto division of Imperial Oil, Ltd., has been appointed supervisor of all the company's marketing activities from Fort William to the Atlantic Coast.

* * *

The marriage of Joseph Meadows Dawson and Miss Virginia Beth Hendrix took place in the First Baptist Church of San Antonio, Tex., June 20. Mr. Dawson is geologist in charge of the office of the Gulf Production Company at San Antonio, having been with the company for several years.

Men of the Industry



GEORGE W. BRAKE

George W. Brake, recently appointed general manager of Columbia Oils, Ltd., of Vancouver, will have charge of important new drilling operations in southeastern British Columbia. Mr. Brake has had a lifetime of experience in the oil industry. Born and reared in the Petrolia Field, he became associated with the industry as a young man, and made himself an outstanding figure among the numerous Canadian drillers in foreign fields. He handled development and executive work for operators in Borneo and Java, and later became field superintendent for the African Prospecting Syndicate in Egypt. In the Venezuela fields he served in a similar capacity. The last 15 years he spent with the International Petroleum Company in Peru, latterly holding the position of general manager of this important subsidiary of Imperial Oil, Ltd.

John H. Langston, chief scout for the Sun Oil Company, Dallas, Tex., and family, are visiting Chicago.

* * *

W. B. Sprague, geologist, has been transferred by the Texas Company to San Antonio, Tex., to have charge of the office there.

* * *

Larry O. Seaman, geologist for the Sinclair Prairie Oil Company, Fort Worth, Tex., has been transferred to the Houston, Tex., office.

* * *

H. R. Taylor, of the marketing department of the Standard Oil Company of New York, Inc., has been confined to his home for several weeks by illness.

* * *

The Phillips Petroleum Company's district land and geological offices in San Angelo, Tex., will be removed to Fort Worth. Leslie Eastman is in charge in West Texas.

* * *

T. G. Hollingsworth, chief clerk of the production department for the Gulf Production Company, Fort Worth, Tex., and family, are spending a vacation in San Antonio, Tex.

* * *

H. Smith Clark, division geologist for the Sinclair Prairie Oil Company, Fort Worth, Tex., and family, are motoring to Wyoming and other western points, intending also to visit Yellowstone National Park.

* * *

Dr. N. H. Darton, long-time geologist, U. S. Geological Survey, having been retired under the 30-year clause in the recently enacted economy act, will give an address to the International Geologic Conference in Washington, D. C., July 22.

* * *

L. M. Simpson, general sales manager of the United States Rubber Company; P. M. Gregg, special representative, and J. C. Ray, divisional manager, all of New York, have just visited Texas branch offices on a tour over the country.

* * *

Winthrop Rockefeller, son of John D. Rockefeller, Jr., began work July 5 at the Bayway refinery of the Standard Oil Company. He arrived from the company's refinery in Bayonne, where two weeks ago he had started his course of study of the oil industry.

* * *

R. H. Morrison, division manager for the California Company, Dallas, Tex., was elected chairman of the Hobbs Pool, New Mexico, Proration Committee, succeeding E. G. Allen formerly with the Shell Petroleum Corporation, who recently resigned to enter business for himself.

* * *

At a meeting of the board of directors of International Petroleum Company at Toronto, the resignations of A. M. McQueen, vice president, and C. O. Stillman, director, were accepted. Their retirement was due to the adoption by the company of the age retirement plan simultaneously adopted by Imperial Oil, Ltd. R. V. LeSueur was elected to succeed Mr. McQueen as vice president, and C. S. Wilcox and Dr. O. B. Hopkins were elected directors.

* * *

E. W. Bowness, of Calgary, Alberta, has been appointed vice president of Dominion Gas & Electric Company and its various subsidiaries, including the Canadian Western Natural Gas, Light, Heat & Power Company of Calgary, and Northwestern Utilities, Ltd. of Edmonton. Mr. Bowness has been for some years a director of the various operating subsidiaries. He is a member of the Engineering Institute of Canada, of the Association of Professional Engineers of Alberta and British Columbia and a number of other engineering societies. At one time he was professor of engineering at the Case School of Applied Science, Cleveland, Ohio, and later was connected with public utilities in Portland, Ore.

WHAT IS A "LIVING WAGE"?

There is a vast difference between a living wage and a consumer's wage.

A consumer's wage has the advantage of permitting an employee to enjoy a proper portion of the product of his own hands.

PRICE CUTTING will not permit a consumer's wage.

Halliburton employees are paid consumer's wages—Halliburton customers are contributing to business recovery.

HALLIBURTON OIL WELL CEMENTING CO.

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FIELD PROBLEMS FROM READERS

Edited by Thomas F. Smiley

This department is conducted in order that men connected with the drilling, producing or transporting branches of the petroleum industry may obtain aid in solving problems that confront them in their work. Readers are invited to send questions freely. These questions will be placed in the hands of persons capable of answering them authoritatively, and the answers, based on the best available information, will be published.

Each question should give as much detail as possible, especially if it involves depth of sands, types of sands and operations on adjoining or nearby properties. The source of questions will be considered confidential, and only the initials of the sender will be published. Questions involving patented processes, intricate formulas or estimates of cost cannot be answered. If an immediate answer is important, one will be given by mail when the writer requests it.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or improved old ones.

Revival of a Well Flooded With Salt Water Presents Problem

Several years ago we completed a well in the Oriskany sand in this section at a depth of 3,648 feet. The usual procedure in this country is to case the well with a production string in the Onondaga lime immediately above the Oriskany, producing the gas through this string. However, in the present case the well was so small that we shot it twice, which cracked the cement and caused a leak, making it necessary to set a string of tubing consisting of 3-inch I.D. 10.20-pound A.P.I. seamless with two packers, both in the casing near the seat, there being a joint or two of perforated pipe below the bottom packer extending to the bottom of the hole. The pay extends from 3,594 to 3,602 feet so that there is about 46 feet of open hole below the producing part of the sand.

This well produced a fair amount of gas at back pressures of approximately 1,200 pounds (the original rock being 1,600 pounds) until during a test the working pressure was lowered to 400 pounds at which point it commenced to make salt water. From then on it was produced at a back pressure ranging successively from 1,000 pounds to 800 pounds and at this latter figure, which has been maintained for the past three or four months, it practically fails to produce any gas at all. We have never blown the well off to see to what extent the volume of water amounted to but contemplate doing this in the near future.

What I would like to know is whether we can revive this well and get it on a paying basis by inserting a string of 1-inch siphon line inside of the 3-inch tubing? If so, what would be the best method of setting same and could we expect the pressure of the gas to raise the water inside the 1-inch to the surface and automatically discharge it into a drip?

At this depth a column of fresh water would exert a pressure of about 1,600 pounds per square inch. Obviously we do not have that much in the well and the question in my mind is whether the 800-pound working pressure would raise the water; it may even be necessary to carry a lower working pressure than this. It seems to me that the pressure exerted by the gas on the larger surface area of water outside of the 1-inch tubing and inside of the 3-inch would be sufficient to raise the smaller cross sectional column inside of the 1-inch but I do not know how far.—R. K. T.

As you state, you have flooded this gas pay with salt water. It is probable that this water is coming in through the casing seat and is therefore under considerable head and the gas pressure is not enough to clean the well of the salt water accumulation.

It is suggested that the string of 3-inch tubing be pulled and the water bailed out. If you can bail this water down so that the gas can break through into the well again, the 3-inch can then again be run with packers.

In rerunning the tubing it will be well to fit the lower end with two tees or a perforated pipe to admit the gas and water.

It is probable that the water will rise in the casing while the tubing is being rerun, and it is suggested that when the tubing first strikes the water a test be made to try to get the gas to blow off part of the water.

The gas will try to break through the water, but if the tubing is submerged too deep in the fluid the head may be too great for the gas to start flow of the water. By lowering the tubing in stages it may be possible to free the well of its salt water.

If you are successful in getting the 3-inch tubing to the bottom of the casing again and the packers in place, it might be desirable to run a string of smaller tubing inside the 3-inch to serve as a siphon.

At the lower end of the string of small tubing you should fit a rubberless packer seat. It may be made of a cone-shaped machined piece with a lead band sunk into the metal, making an effective shutoff.

The string of small tubing is packed with stuffing-box at the well head and discharges into a vertical drip that may be made of 8-inch *or* larger casing and about 8 to 10 feet high. At the bottom of this vertical drip a connection is provided through which the water can be removed.

The gas outlet is in the top of the vertical drip and it is well to conduct the gas into a second drip placed horizontally. Any moisture carried over from the vertical drip will be dropped in the second drip and can be discharged.

All of these suggestions are made on the assumption that the water has not entirely ruined the gas well. It would be well to try to repair the casing seat and plug off any water that might be entering the well from behind the casing.

If you do pull the 3-inch tubing and bail the well down, it is suggested that you then make careful check to determine the source of the salt water. A casing tester can be used for this purpose to good advantage because it is possible that damage has been done to the casing in more than one place by the shots.

If the well can be repaired enough to permit the gas to enter it again and the amount of water is reduced to a minimum it should then be possible to blow this water out with the gas, for a siphon properly operated will carry the water with the gas in a misted state.

Literature Concerning the Sand Storms of McCamey District

I want to obtain such information as I can concerning the sand storms that are common in the oil district around McCamey, Tex. Can you refer me to any literature or other sources of information touching this subject?—C. G. N.

If you have access to William H. Twenhofel's second edition of "Treatise on Sedimentation," published by the Williams & Wilkins Co. of your city, you will find in it an interesting chapter on "Transportation and Deposition by the Atmosphere," on page 65.

A complete bibliography is given and it is noted that the late Dr. J. A. Udden, formerly state geologist for Texas, has written a number of articles on this interesting subject.

During the week of April 24, 1933, some severe windstorms originated in Arizona and New Mexico, blowing over the Panhandle of Texas and Oklahoma, and the newspapers printed an item under a Lincoln, Neb., date line which quoted geologists of the University of Nebraska as estimating that the red dust carried by this storm and deposited in Nebraska was worth $26,000,000 to the farmers there.

About 35 tons of dust fell per square mile, as estimated by Prof. E. F. Schram. He multiplied this by the number of square miles in the State and the present $10 cost of mineral fertilizer. The material transported consisted largely of gypsum, volcanic ash and silt.

You might get some specific information about dust storms in West Texas from the University of Texas, Austin, Tex. The sand dunes of the area give definite evidence of wind movements, and it is possible that the geological department of the University of Texas may have issued some literature on this subject.

Good Rotary Mud in One Field Is Not Always Good in Another

When there is a blowout in a drilling well is it because of defective circulating mud, or is it a fact that even the best possible mud cannot prevent all blowouts? If my recollection serves me right the petroleum engineers used to tell us that a properly made mud could be depended upon to prevent all blowouts in a rotary drilled well, but since then there have been more blowouts than you can count, some of them disastrous, and inventors have been busy trying to produce a blowout preventer that would prevent blowouts. The thing I want to ask you about is what constitutes a "good mud," and especially I want to ask what qualities the mud should have to insure so far as possible against blowouts.—N. T. A.

Experience in many rotary drilled oil fields in the last few years has clearly demonstrated one important fact, and that is that there is no one formula for mud fluids that will apply universally. It is difficult to answer your question as to what constitutes "good mud" therefore unless the particular location of the well is known.

A great deal has been written about rotary mud and several symposiums have been conducted by the A.P.I. and A.I.M.E. and other engineering organizations. Much valuable information has been presented at the meetings and most of the papers read have been published in The Oil and Gas Journal and can be located by reference to the semiannual indexes.

Blowout preventers certainly have their place in the layout of surface equipment used at drilling wells in many localities. They furnish a mechanical means of controlling the pressures at the casinghead during drilling operations and have in many cases prevented serious blowouts.

The weight of mud is one quality that is variable over wide ranges and the old theory that heavy mud alone will control gas blowouts is not always true. In some areas it has been found that heavy mud will gas-cut badly and the column is thereby lightened so quickly that the well may get out of control while the drill pipe is being pulled.

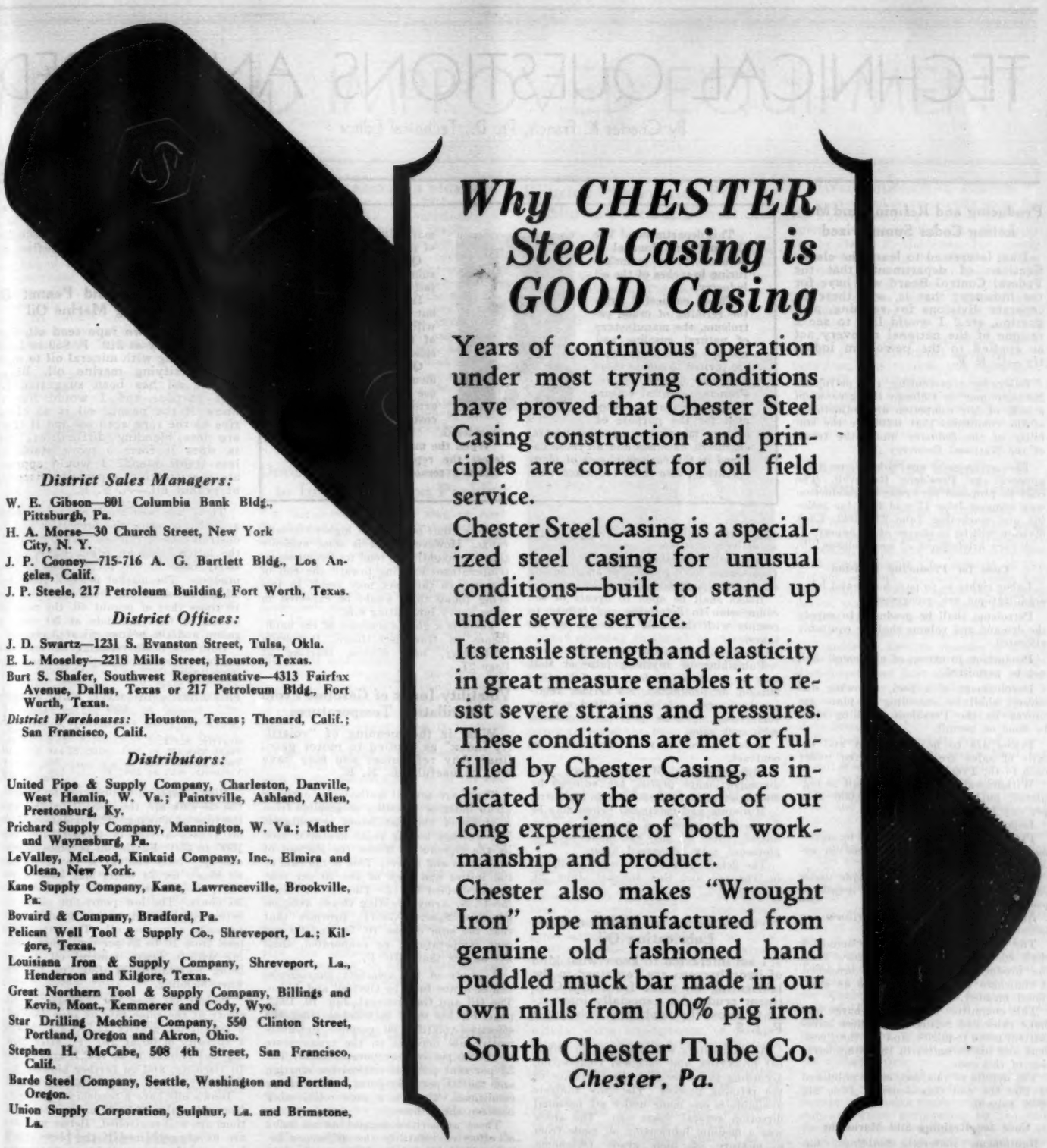
The use of admixtures and chemicals for treating mud should be based upon recommendations of specialists who are versed in the particular requirements of any given location. Some companies have such men in their organizations, others consult with the manufacturers of various admixtures and are guided by their recommendations.

In wildcat wells a combination of carefully mixed mud and the use of blowout preventers is usually good practice, even though it may add something to the cost of drilling. It is better to have this added cost on all wells than to have any one well blowout and cause a great amount of damage.

Why Was It Called That?

DINOSAUR

Geological explorations in various parts of the world, but especially in western United States, frequently bring to light remains of the dinosaur, largest of known land animals, which became extinct with the close of the Mesozoic era. The name is derived from two Greek words meaning "frightful lizard." This reptile grew to a length of 60 to 70 feet. In a government park in Ottawa, Canada, is a bird bath made from a dinosaur footprint. The depression is in a section of rock brought from the Peace River Valley of western Canada. It is 2½ feet across and 6 inches deep, which gives some idea of the monstrous size of these prehistoric creatures.



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Star Drilling Machine Company, 550 Clinton Street, Portland, Oregon and Akron, Ohio.

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Why CHESTER Steel Casing is GOOD Casing

Years of continuous operation under most trying conditions have proved that Chester Steel Casing construction and principles are correct for oil field service.

Chester Steel Casing is a specialized steel casing for unusual conditions—built to stand up under severe service.

Its tensile strength and elasticity in great measure enables it to resist severe strains and pressures. These conditions are met or fulfilled by Chester Casing, as indicated by the record of our long experience of both workmanship and product.

Chester also makes "Wrought Iron" pipe manufactured from genuine old fashioned hand puddled muck bar made in our own mills from 100% pig iron.

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STEEL CASING

SPECIALISTS IN CASING FOR DEEP WELL DRILLING

LINE PIPE

TECHNICAL QUESTIONS ANSWERED

By Charles K. Francis, Ph. D., Technical Editor

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible.

Inquiries must be signed but only the given initials will be printed. The source of the questions is considered to be confidential.

Questions requiring a dicussion of patents, the use of intricate formulas, extended computations, or cost estimates cannot be considered.

When the matter is of general interest the reply will be published within a reasonable time.

Producing and Refining and Marketing Codes Summarized

I am interested to learn the classifications of departments that the Federal Control Board will have for the industry; that is, will there be separate divisions for refining, production, etc.? I would like to see a resume of the national recovery act as applied to the petroleum industry.—C. R. E.

Delegates representing the petroleum industry met in Chicago to agree upon a code of fair competion and adjustment of the conditions that influence the stability of the industry under the terms of the National Recovery Act.

The arguments are subject to final approval by President Roosevelt. The code as proposed for crude oil production was adopted June 17 and that for refining and marketing June 23, 1933. Each division will be in charge of an expert.

A very brief digest of each follows:

Code for Producing Division

Labor rights as to pay, hours and labor organizations are recognized.

Petroleum shall be produced to supply the demand and volume shall be equitably allocated.

Production in excess of allotment shall not be permitted.

Development of a pool, following discovery, shall be according to plan, approved by the President. Drilling shall be done on permit.

Prices are to be established and details of sales are to be reported under oath to the President.

Withdrawals from storage shall be regulated, but not to exceed 100,000 bbls. per day in excess of supply.

Imports are to be limited.

Production may be restricted by agreement. Oil shall not be produced in excess of allotment.

Monthly reports are to be made under oath to the President, covering details of producing properties.

Agreements between competitors are permitted, if approved.

The Emergency National Committee shall consist of 52 equally drawn from the producing and marketing branches. A chairman may be selected as an additional member.

This committee shall be in charge and make rules and regulations, collect information, make inquiries, and aid the President and his delegates in the administration of this code.

The details of this code were published in The Oil and Gas Journal, June 22, 1933, page 6.

Code for Refining and Marketing

Equipment, material, buildings, improvements and repairs shall not be furnished by refiners, distributors, jobbers or wholesalers, to retailers or to consumers.

No attempt shall be made to break existing contracts. Equipment bearing trade names, trade-marks, brands shall be respected and no product of another manufacture shall be delivered to such marked equipment. Lotteries or games of chance shall not be used. Products shall not be sold below cost. Loans shall not be made and no assistance given for payment of taxes, license or inspection fees or pay rentals in any form.

Gasoline shall not be sold from tank wagons, trucks, etc., except in emergencies. No premiums shall be paid or special inducement given in connection with sale of petroleum products. Wholesale prices shall be conspicuously posted at delivery stations.

No deliveries shall be made into a tank wagon for a reseller, or agent selling on a commission basis.

Books shall be open to agents of the commission to determine any failure to comply with this code or to pay proper taxes.

A schedule of credit is adopted.

Publishing of anything false or that may be construed to lead to a false conclusion, is prohibited. No service relating to heating oils is permitted and no commission shall be paid in connection with such sales.

Resale prices may be designated by contract.

Organization shall not be such that disproportionate profits are enjoyed by one department to the exclusion of others.

Minimum and maximum prices may be fixed. Organization of employes is permitted, rates of pay and hours of employment may be agreed upon.

The details of this code were published in The Oil and Gas Journal, June 29, 1933, page 7.

Hydrocarbons in Mid-Continent Lubricating Oil

I am interested to know what kind of hydrobarcons are contained in the lubricating oil made from Mid-Continent crude. Am especially interested to know the naphthene content.—R. J. S.

All lubricating oils will vary in physical properties and chemical composition according to source and the character of the refining process. The only analysis available is one made under my personal direction several years ago. The stock was a medium lubricating oil made from a mixture of high grade Oklahoma crude oils.

ANALYSIS OF MEDIUM GRADE LUBRICATING OIL

Gravity, A.P.I.	25.5
Specific gravity	0.9013
Initial boiling point, deg. F.	550
Flash, deg. F.	390
Fire, deg. F.	455
Pour, deg. F.	20
Vis. at 100° F., Saybolt Univ. sec.	320
Refractive index at 20° C.	1.502
Color	4
Carbon residue	0.10
Iodine number	27
Olefines, per cent	15
Aromatics, per cent	7
Naphthenes	50

The naphthenes are present to the largest extent in the fractions obtained at the higher temperatures from any particular crude oil, so the highest percentages will be found in the heavier lubricating oils; that is, those of higher viscosity range. However, there is some evidence that the naphthenes tend to decompose at temperatures existing toward the end of the cut, so this fact may result in less being found than would be expected in some heavy lubricating oils.

There is a good discussion of the naphthenes in Gurwitsch-Moore, Petroleum Technology, new edition, starting at Page 27.

Volatility Index of Gasoline From Distillation Temperatures

What is the meaning of "volatility index" as applied to motor gasoline? Any references you may have will be useful.—L. N. E.

There are several methods for arriving at an index of volatility of gasoline from a study of the distillation percentages. The average boiling point has been used by the Bureau of Mines, the Bureau of Standards and others. This is the sum of the initial and each of the 10 per cent points divided by 11. The specifications for U. S. Army Fighting Grade aviation gasoline, Spec. Y-3557F, provides that that the sum of the 10, 50 and 90 per cent temperatures, as evaporated, shall not be less than 564° F.

A study of the volatility characteristics of motor fuels by Oberfell and Alden, The Oil and Gas Journal, Jan. 19, 1933, page 14, led them to conclude that the effective volatility of gasoline for automotive use depends on the temperature at the 50 per cent evaporated point. The 35 per cent point is critical for starting and the 60 per cent point is for driving conditions. There is a close relationship between these three.

These authorities suggest as an index of effective volatility the difference between 284° F. and the 50 per cent evaporated temperature as found by the A.S.T.M. distillation test. The maximum 50 per cent temperature permitted for U. S. Motor gasoline is 284° F. Under this system U. S. Motor gasoline would have an index of zero; Motor Fuel V, 27; Domestic Aviation gasoline, 63; Fighting Grade Aviation gasoline, 72.

These authors present a graph giving distillation data for a large number of gasolines. The close relationship between the 50 per cent point and 35 and 60 is indicated, where the 10, 30, 70 and 90 per cent points are plotted against the 50 per cent temperature. Notwithstanding some extreme variations in the 10 and 90 per cent points, for a given 50 per cent point there are relatively narrow ranges for the 30 and 70 per cent points. But little ranges are to be expected at the 35 and 60 points. It is concluded that the 50 per cent distillation temperature adequately defines the effective volatility.

Rape Seed Oil and Peanut Oil for Making Marine Oil

We use blown rape seed oil, Saybolt viscosity at 210° F. 950 to 1,000, for blending with mineral oil to make an emulsifying marine oil. Blown peanut oil has been suggested for this purpose and I would like to know if the peanut oil is as effective as the rape seed oil and if there are less blending difficulties; that is, does it form a more stable or less stable blend? I would appreciate specification, especially viscosity of peanut oil.—A. F. R.

There has been much more data made available covering the properties and industrial uses of rape oil than peanut oil; the latter being an edible oil is extensively used in the preparation of food products. The market price of rape seed oil has for some time been approximately 10 times that of peanut oil, the rape oil selling in tank car lots at 50 cents a gallon and the peanut oil at 5 cents.

Both oils, in the refined condition, have similar physical properties as shown in the table:

PROPERTIES OF RAPE AND PEANUT OIL

	Peanut	Rape seed
Gravity, A.P.I.	22.3	22.6
Flash, deg. F.	580	550
Pour, deg. F.	34	30
Viscosity, S.U. at 100° F.	320	330

Blown rape oil is prepared by blowing the oil with air, the viscosity rising with the time of blowing. The oxidation of the oil causes a rise in temperature from 160° to 250° F., the oil becomes heavier and free fatty content is increased. An oil blown for 24 hours may show a viscosity of 230 at 210° F., and 750 after 36 hours. The low pourpoint oil is the better for blending with a petroleum oil to make a marine oil. The rape oil is used from 10 to 25 per cent when blending with a heavy mineral oil, the oil being maintained at 130° to 150° F. when blending.

Peanut oil does not increase in viscosity at the same rate as rape seed oil; a peanut oil, gravity 22.7 A.P.I., having a viscosity of 60 at 210° F., after blowing was reduced to 20 A.P.I. gravity and 70 viscosity, and on further blowing had a gravity of 19 and a viscosity of 86.

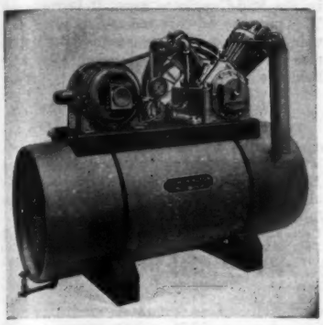
Blown oils have a tendency to separate from mineral oil blends unless the conditions are well controlled. Better mixtures are usually obtained if the blown oil is first mixed with a light or nonviscous neutral and then the resulting mixture gradually worked into the heavy lubricating oil. The gravity and type of oil are important factors, some petroleum oils seem to be better suited for blending with blown rape seed oil than others. It appears that the peanut oil cannot be so easily reduced in pourpoint as the rape seed oil. Also, the high viscosity of the rape seed oil permits much smaller quantities to be used for a definite viscosity.

No fixed rules can be adopted for the blending of blown oils, the properties of both mineral oils and the blown oils must be maintained to suit the conditions and if one varies proper adjustment, based on analyses, must be made to obtain the best results.

NEW AND IMPROVED EQUIPMENT

Feather Valve Feature of New Air Compressor Unit

The Worthington Pump & Machinery Corp., Harrison, N. J., announce a complete line of V-type, two-stage, air-cooled air compressor units especially designed for automotive service. The new compressors are equipped with the feather valve. As distinct from the poppet type, this valve consists of one or more strips of ribbon steel operating between a



Worthington type VA-2 Air Compressor unit

curved guard and a flat seat with drilled or slotted opening. The strip literally breathes on its seat, opening and closing by contact rather than by impact. The compressors, designated as Type VA-2, are offered in a range of sizes to furnish from 3.9 to 34 cubic feet of air per minute at pressures up to 200 pounds per square inch.

Features of advanced engineering are incorporated, including counterbalanced crankshaft, full-floating wrist pins, honed cylinders, silent suction muffler and Timken roller bearings. Motor and compressor, connected through a Worthington multi-V-drive, are mounted on a channel base resting upon a horizontal A.S.M.E. air receiver, the base being joined by straps to sturdy iron floor saddles.

Enclosed in the crankcase is a centrifugally operated automatic mechanical unloader, providing positive operation of by-pass needle valve for unloading the compressor in starting. A spring-loaded air safety valve assures dependability of action and gives adequate protection against excess pressure. An air-operated electric pressure switch provides automatic start and stop control. Compressor, motor and air receiver are painted with aluminum, while base, straps and floor saddles are a brilliant scarlet.

Burner Handles Heavy Oil, Tar and Acid Sludge

To meet the demand for a burner which could handle fuels such as heavy oil, tar, pitch and acid sludge, as available in quantities in petroleum refineries, the Babcock & Wilcox Co., 85 Liberty Street, New York, has developed a new steam-atomizing burner.

Steam is admitted to the annular space around the central fuel barrel and is projected across each outgoing stream of fuel at the nozzle plate, thus effecting complete atomization and resulting in a short turbulent flame when used with the standard B&W burner register.

A single nozzle plate is used for all capacities from the maximum to minimum ratings, variations in capacity being accomplished by varying the fuel and steam pressures.

RESULT ASCRIBED TO PIGMENT

L. Sonneborn Sons, Inc., 88 Lexington Avenue, New York, manufacturers of S. R. P. metal protective paints, say these paints were tested against sulphur dioxide, nitrogen, peroxide, acetic acid vapors and against alkali solutions. They ascribe the resisting qualities of the paints to the character of the new pigment used. This pigment, they say, is wettable to a far greater degree and forms an unusually dense, impermeable surface film. S. R. P. paints, according to the manufacturers, were used on rusty iron without brushing the rust off. After several days the rust and paint film appeared to form one integral membrane, which could only be removed by strong force, and then left the bare, clean metal as a surface.

Double-Seal Ring Designed to Improve Piston Packing

A one-piece double-seal ring to meet the demand for an improved method of sealing the gap against the cylinder wall and the ring groove has been put on the market by the Double-Seal Ring Co., Fort Worth, Tex. This one-piece ring has the same sealing effect as the two-piece double-seal ring and is intended to prevent blow-by in worn cylinders, thus increasing effective lubrication within the walls of the cylinder and adding to the life of the equipment.

In its new design the one-piece ring is generally similar to the two-piece made by the same company, in that at the end of the gap and for some distance on each side of it the construction is identical, retaining the same basic principle of sealing against leakage or double-sealing both groove and wall. The same material is used in the one-piece ring as in the two-piece.

According to the manufacturer, the one-piece ring is an advancement in the field of piston packing by bringing about improvement in combustion and with excessive wear in the cylinder walls to continue to hold compression after the joints have become enlarged due to wear on the face of the ring.

The one-piece ring is adaptable for all kinds of oil industry usage, including Diesel and gas engines, compressor and pipe line engines and in pumping and drilling engines or where internal combustion power is utilized.

Happy Belting Co. Offers New Type Belt Tightener

A vertical screw-type belt tightener for the engine-to-countershaft has been put on the market by the Happy Belting Co., Tulsa. By utilization of longer frame and screws it can be adapted to the adjustment of bandwheel belts.

The tightener has a rigid, heavy H-beam frame with adjustable braces for correct alignment of belt. The pulley is mounted on Timken bearings. Large screws with a ratchet wrench arrangement permit tightening or loosening the belt while in operation.

Another feature of the tightener is that it permits quick change over to the spring type flexible tightener.

NEW BRISTOL CONTROLLERS

The Bristol Co., Waterbury, Conn., announces the new time temperature and time pressure controllers. In many processes it is desired to regulate a temperature (or pressure) at some fixed rate, and then either hold it or decrease it at some other rate. Bristol's new controllers do this on any range of temperature from —40° to 1,000° F., or pressure from 10 to 2,000 pounds.

Plibrico Observation Port Shows Furnace Conditions

An efficient observation port for ascertaining furnace conditions in boilers and other types of furnaces has been announced by the Plibrico Jointless Firebrick Co., Chicago. The port is provided with a divided cover which opens at a touch on the handle and closes automatically the moment the handle is released by the operator. It is impossible for the operator to leave the port uncovered allowing an inrush of excess air. The overlapping sections of the cover close tight, practically eliminating any infiltration.

The port is equipped also with a glass to protect the eyes of the operator from possible injury. This glass is made of blue pyrex to resist the heat and diffuse the glare.

"Space Saver Speedwinch" Put on Market by Wilson

The "Space Saver Speedwinch," made by the Wilson Manufacturing Co., Wichita Falls, Tex., is designed to save body room on the truck and at the same time make possible a wide drum winch with superior line spooling quality. This new machine with the winch mounted just back of the cab and a floating sheave at the rear of the truck is offered in three large sizes for wells up to 2,500, 3,500 and 4,500 foot depths, respectively.

Choice of three types of clutches is offered: Regular countershaft jaw clutch, as furnished on thousands of Wilson winches; new-type jaw clutch in drum, featuring a completely free rolling drum without chain misalignment, or internal expanding double shoe type friction clutch with full free rolling drum. All types are mounted on Timken roller bearings.

The folding platform frame is all welded steel construction with hardwood floor bolted on. The rear sheave is easily removable for extra-long body loads, and the sheave is guarded so the line cannot jump out. This winch obtains power from the truck motor through a special heavy-duty power takeoff and bevel-gear drive, and can be furnished for practically any make of truck.

MID-CONTINENT OFFICES

Dowell Incorporated of Midland, Mich., has established a sales office at 835 Kennedy Building, Tulsa, in charge of R. D. Shaw, assistant sales manager. Other established offices in the Mid-Continent Field are division headquarters in charge of N. A. Best, division manager, First National Bank Building, Shreveport, La.; Oklahoma district office in charge of J. A. Cummin, district manager, Hotel Frank, Seminole, Okla.; Kansas district office in charge of C. E. Clason, district manager, Randall Building, Newton, Kans.

PAPICO ODORIZING SYSTEM

The sales and manufacturing rights for the Papico odorizing system have been purchased from Pacific Pipe & Supply Co. by Harry F. Haldeman, Inc., newly formed engineering organization in Los Angeles. Offices have been opened in the Title Guarantee Building at Fifth and Hill Streets, Los Angeles, under the management of Harry F. Haldeman, formerly president of Pacific Pipe & Supply Co. It is the plan of the engineering organization to add additional specialty products from time to time and representation will be arranged in key centers throughout the United States. The Papico odorizing system is used for injecting an odorizing medium in natural gas main lines and city service lines.

Champion Pipe Coupling Is Simple and Easily Handled

The new Champion positive-seal coupling for plain-end or grooved pipe, made by the Champion Machine & Forging Co., Cleveland, Ohio, and distributed by the Continental Supply Co., consists of five distinct sections, or parts, namely two half-couplings which contain the gripping device, one gasket with metal protected sections and two bolts.

The couplings are drop-forged of a special grade of steel to produce a strong and light coupling. The gripping rings drop-forged and heat-treated are assembled into the half-coupling in such a manner as to become integral with the coupling itself so there is no danger of their being lost.

The bolts are especially treated to provide an extremely high elastic limit but a sufficient degree of elasticity to prevent any breakage. This high elastic limit eliminates the stretch ordinarily encountered and when once tightened they stay tightened. The bolts are threaded with a special thread which lessens the labor of tightening, and minimizes the tendency of the nuts to work loose. The bolt is of the rail type which needs only one wrench in pulling the nut home on the bolt.

The gaskets are designed along the lines of the low pressure automobile tire with a double seal which is equally effective against either pressure or vacuum. Tests have shown that the rubber seal is effective up to pressures of 4,000 pounds per square inch. There are no square corners on the gasket that will tend to split under pressure, and the gasket and the back-up section, or recess of the coupling, are designed to permit perfect seating of the rubber gasket.

The couplings have been assembled on pipe and tested up to 4,000 pounds per square inch, using commercial pipe without any extra preparation on the ends for these tests. Couplings have been assembled on two pipe sections, and a vacuum imposed upon the assembly immersed in water for one week, and upon removal of the assembly showed no infiltration of water, proving that the couplings are effective against vacuum.

Features of these couplings are their simplicity and the ease with which they can be assembled. The joint can be broken down and made up again any number of times without impairing the efficiency of the coupling, and it can be reassembled on the same pipe or new pipe with no inconvenience.

William A. Gayou has been appointed to succeed P. E. Anderson as resident agent of Bethlehem Steel Co. in Kansas City, Mo. Mr. Gayou's address is Kansas City Athletic Club. Mr. Anderson is transferred to the Bethlehem staff in Houston, Tex.

MARKET RECORD OF OIL SECURITIES

By A. E. Mockler

NEW YORK, July 10.—Oils again advanced into new high ground during the past week, stimulated by the advance in crude oil quotations and the continued upward movement in refined products prices, as well as by the expectation of a more stable position for the industry as a result of the planned operations under the terms of the industrial recovery law.

The dividend outlook for the industry as a whole has been considerably brightened by recent developments, and there are rumors in financial circles over the pending return of regular disbursements by some companies which have been compelled during the past year to reduce or omit entirely dividend payments.

Wall Street's views as to the outlook for the major companies are summed up in the following paragraph from the Wall Street Journal: "With the crude oil market strong, the small refiners operating from hand to mouth, who formerly bought cargoes of crude under the market and were able to undercut on gasoline, are hard put. Much of the business which they formerly secured is now going to the larger companies. The gasoline sales of these companies recently have shown a considerable improvement, increasing their manufacturing operations."

Sunoco

Chase National Bank of New York is inviting tenders for the sale to it for the sinking fund September 1, 1933, of Sun Oil Co. 15-year 5½ per cent gold debentures in an amount sufficient to exhaust $133,500. Tenders at a price not exceeding 101½ per cent of the principal amount and accrued interest should be submitted to the bank on or before noon July 20.

Consolidated Royalty

Consolidated Royalty Oil Co. has declared a quarterly dividend of 5 cents per share on its $10 par stock, payable July 25 to stock of record July 15.

Amerada

Amerada Corp. has declared the regular quarterly dividend of 50 cents per share, payable July 31 to stock of record July 15.

Eureka

Eureka Pipe Line Co. has declared a dividend of $1, payable August 1 to stock of record July 15.

Plymouth

Plymouth Oil Co. reports for 1932 net profit of $1,667,008, after depletion, depreciation, drilling costs, abandoned wells, surrendered leases, Federal taxes, minority interest, etc., equivalent to $1.58 a share on 1,050,000 shares of $5 capital stock, including shares held by the company. This compares with $825,013, or 78 cents a share, earned in 1931.

Derby Oil

Derby Oil & Refining Corp. and Derby Oil Co. report for 1932 net income of $50,392, after all charges, equal to $2.64 a share on 19,049 shares of no-par $4 preferred stock outstanding at the close of the year.

Lion Oil

Lion Oil Refining Co. and subsidiaries report for 1932 consolidated net loss of $385,098 after interest, depreciation, depletion, minority interest, etc., as compared with net loss of $728,879 in 1931.

Wilcox

H. F. Wilcox Oil & Gas Co. reports for 1932 net loss of $399,065 after interest, depletion, depreciation, lease abandonments, etc., comparing with net loss of $1,069,782 in 1931.

Anglo-Persian

Anglo-Persian Oil Co., Ltd., has declared a dividend of 9 cents per share on the American depositary receipts of its first preferred regular stock and 10 cents per share on the American depositary receipts of its second preferred regular stock.

British-American

British-American Oil Co., Ltd., reports for 1932 net earnings of $2,602,743 applicable to the common stock, after all charges, equal to 99 cents per share on the common, against net of $1.04 per share in 1931. Depreciation last year was $1,201,155, compared with $1,138,329 in 1931. Surplus as of December 31, last, was $9,135,805, as compared with $8,631,176 at the close of 1931.

Monongahela Oil

Monongahela Oil Co., which is exchanging its stock for that of Salt Creek Consolidated Oil Co., has been incorporated in Colorado with capital of 600,000 shares of no-par stock, and is reputedly a holding company which will absorb a number of the producing companies operating in Wyoming fields. Operating plans of the new company contemplate the acquisition of considerable oil acreage in Texas and in the Mid-Continent area, it is reported. The purpose of this expansion is to provide sufficient reserves against the depletion of Salt Creek and other Wyoming holdings.

Twenty Representative Stocks

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange and New York Curb, based on closing quotations for Wednesday, was as follows:

Dec. 21	13.53	Apr. 5	12.60
Dec. 28	13.50	Apr. 12	12.64
Jan. 4	13.89	Apr. 19	14.82
Jan. 11	14.52	Apr. 26	15.80
Jan. 18	13.76	May 3	16.14
Jan. 25	13.37	May 10	17.22
Feb. 1	13.26	May 17	20.20
Feb. 8	13.21	May 24	18.60
Feb. 15	13.14	May 31	20.51
Feb. 22	13.14	June 7	21.52
Mar. 1	11.91	June 14	35.44
Mar. 15	14.23	June 21	23.09
Mar. 22	12.66	June 28	23.86
Mar. 29	12.35	July 5	25.20

TRINIDAD DERRICKS DESTROYED

Twelve persons were killed in a hurricane at South Trinidad. A message from

Independent Oils on New York Curb

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla

(Complete record week ended July 1)

1933 High	1933 Low	Week ended July 1 Sales	Week ended July 1 High	Week ended July 1 Low	Close July 5	Stocks		Outstanding capital	Par value	Div. rate	Payable or last paid	1930 High	1930 Low	1931 High	1931 Low	1932 High	1932 Low
1¼	⅛	15,700	1¼	1	1	American Maracaibo	(sh)	700,000	N.P.	....	.....	4½	½	1¾	¼	¾	¼
5½	1⅜	1,300	3⅞	3⅛	3¼	Arkansas Natural Gas	(sh)	4,084,225	N.P.	....	.....	16¾	4⅝	6½	1⅞	3¾	⅝
4	1	7,800	3⅛	2¾	2¾	Arkansas Natural Gas "A"	(sh)	3,522,521	N.P.	....	.....	16⅝	4⅝	6¾	1⅞	3⅜	½
4⅞	2	No sales ..	..	..	..	Arkansas Natural Gas pfd.	(sh)	2,193,000	$10	....	4- 1-32	8⅛	6¼	7	3⅞	5⅝	1½
14	6½	No sales ..	..	..	14	British American Oil Corp.	(sh)	2,622,642	N.P.	20cQ	3-14-33	23	13⅜	16⅞	6¼	9¾	6¾
4⅛	¼	40,800	4	3	3	Carib Syndicate		$131,250	25c	....	.....	2¾	⅝	2⅝	¼	¾	⅛
30	10½	1,600	24½	21	22¾	Cities Service	(sh)	36,979,065	N.P.	....	6- 1-32	44¼	13	20¾	5	6⅞	1⅛
6¼	2	109,400	5¼	4¼	4⅞	Cities Service pfd.	(sh)	1,125,931	N.P.	....	6- 1-31	93⅞	78¼	84¾	35⅝	53⅜	10
2½	⅝	3,700	2⅝	2	2	Columbia Oil & Gasoline v.t.c.	(sh)	$2,000,000	$1	....	.....	¾	⅛	½	1/16	2⅛	½
3⅞	¼	42,400	3⅞	2⅜	3¾	Colon Oil	(sh)	2,200,000	N.P.	....	.....	8¼	1⅛	3½	¼	1¼	¼
2⅞	1	200	2⅜	2⅜	2¼	Consolidated Royalty Oil Co.		$5,527,880	$10	5cQ	1-25-33	5⅞	2	2¾	1	2	1
7½	⅞	400	7	6½	..	Cosden Oil	(sh)	323,950	N.P.	....	.....	74¾	1¼	3¾	⅜	2⅞	¼
7¼	2⅛	300	6⅝	5⅝	..	Darby Petroleum	(sh)	609,696	N.P.	....	10-15-30	21¾	4¼	5	1⅜	7⅛	1⅝
2¾	⅞	1,400	2½	2⅛	2⅛	Derby Oil & Refining	(sh)	500,000	N.P.	....	.. ..	11	2	6	1½	3	1
61	24	6,800	61	57⅛	60	Gulf Oil Corp.	(sh)	4,504,921	$25	....	10- 1-31	166⅞	58½	75½	25⅝	44¾	23
6½	1¼	1,100	6½	5¾	..	Indian Terr. Illum. Oil "B"	(sh)	7,090,037	N.P.	....	.....	53½	12⅝	16⅞	5	4½	1½
2	⅝	2,100	1⅝	1	1½	Kirby Petroleum	(sh)	750,000	N.P.	10c	4-15-33	3	⅞	1⅞	¼	1	⅝
1½	⅛	7,400	1	¾	⅞	Leonard Oil & Development		$50,000,000	$25	....	.....	5	¾	2	½	¾	⅛
2¼	1/16	3,800	2	1⅜	1⅝	La. Land & Exp.	(sh)	3,000,000	N.P.	....	.....	4¾	½	1½	¼	2½	½
7	1¼	1,500	6	4⅝	7	Lion Oil & Refining	(sh)	250,000	N.P.	....	10-27-30	29	4⅞	6¾	1½	3½	⅞
11⅞	4⅝	10,100	11½	10⅜	10¾	Lone Star Gas	(sh)	5,000,000	N.P.	16cQ‡	3-31-33	55⅞	19⅝	25	5½	11	3⅜
6⅛	2⅛	1,100	4⅞	4⅛	4¾	Memphis Natural Gas	(sh)	920,000	N.P.	....	4-15-32	22¼	7½	12⅛	4½	5¼	1⅝
5	2	No sales ..	..	..	..	Mexico-Ohio Oil Co.		500,000	N.P.	....	.....	7½	1⅝	4⅞	1½	3⅜	1½
⅝	¼	200	⅝	½	..	Mountain & Gulf		$4,000,000	$1	....	4-15-31	¾	⅜	½	⅛	⅜	⅛
6½	2½	3,000	6⅛	5½	5¾	Mountain Producers		$1,682,182	$10	20cQ	4- 1-33	12⅛	3¾	5⅞	2	4¾	2½
20	10	1,400	18	17	17⅛	National Fuel Gas	(sh)	3,810,183	N.P.	25cQ	1-16-33	41⅜	19⅜	26½	9¾	14⅝	8
1⅝	½	800	1⅝	1½	1⅝	New Bradford Oil		$7,224,186	$5	....	4-15-31	3½	1⅛	1½	½	⅞	⅜
1⅝	½	1,200	1⅝	1⅝	..	New Mexico and Arizona		$1,000,000	$1	....	.....	7¼	1½	3	⅝	1¼	⅜
5	½	2,900	5	3½	..	North Central Texas	(sh)	262,446	$5	....	9- 2-30	11¼	2½	3¼	⅝	1½	⅜
½	1/16	3,700	1/16	¼	⅜	North European Oil	(sh)	1,372,391	N.P.	....	.....	6¼	⅝	2⅛	¼	⅝	1/16
7¼	3	1,200	7¼	6¾	..	Pacific Western Oil	(sh)	1,000,000	N.P.	....	.....	19½	5½	15	2⅝	8	3
1¼	⅛	1,800	1	1	1	Pantepec Oil	(sh)	1,595,500	N.P.	....	.....	4⅜	⅞	2	⅝	⅝	1/16
⅞	¼	1,200	¾	⅝	⅝	Reiter-Foster	(sh)	388,584	N.P.	....	12- 2-29	5⅜	1	3⅛	¼	½	1/16
2¼	¼	7,200	1	½	⅞	Richfield Oil pfd. x.w.	(sh)	399,950	$25	....	.....	23½	6½	11	¼	1	⅛
4¼	⅝	2,200	3¼	2¼	2½	Ryan Consolidated	(sh)	296,931	N.P.	..	.....	8⅝	2	3	⅝	2⅛	⅝
1	⅜	700	1	⅝	..	Salt Creek Consolidated	(sh)	1,286,300	$10	....	4- 1-31	2½	½	1⅜	⅛	⅞	⅛
9¼	3½	1,600	8	7½	7⅞	Salt Creek Producers	(sh)	1,496,859	$10	25c	2- 1-33	15¼	5¼	7⅝	2¾	5½	2⅜
1½	¼	2,500	1⅝	1⅛	1⅛	Sunray Oil	(sh)	1,163,185	$5	....	4-15-31	10	2	5⅛	¼	⅝	⅛
13	6¼	900	11⅛	10⅝	..	Texon Oil & Land	(sh)	936,036	N.P.	25c†	12-30-32	19½	8	12⅞	2½	10½	4½
1½	⅛	3,800	1¼	1	1⅛	Venezuelan Petroleum	(sh)	755,090	$5	....	2-15-30	4¼	⅜	1⅞	¼	1/16	⅛
2⅜	1½	600	2	2	..	Woodley Petroleum		$500,000	$1	....	3-31-29	5	½	3½	1⅛	2⅜	1⅛

*Ex-dividend. †Plus extra dividend of 25 cents. ‡Payable in stock. §Paid in lieu of regular cash dividend of 2 per cent.

Palosco said 60 derricks of the Trinidad Petroleum Co. had been destroyed.

DEBT AND PRODUCTION

Bassett Jones, consulting engineer, New York City, has completed a book analyzing the operating characteristics of the industrial economy of this country which will be published by John Day Co., New York, and released August 10. Mr. Jones is a F.A.I.E.E.; member, A. S.M.E., and also research associate in Industrial Engineering, Columbia University, New York City.

This book is a quantitative study of our economy and entitled "Debt and Production." The sum of the analysis is that while it may be possible to continue production carrying a fraction of a load of debt or credit imposed upon it during the past century of operation, ultimately the debt or credit structures must be revised in accordance with two basic principles stated as follows:

1. Quantity of debt at any time must have a one-to-one relation to the volume of production at that time.

2. Payment of debt at any time must have a one-to-one relation to the growth of production at that time.

The book contains about 150 pages, is illustrated with graphs and divided into two main parts, an introduction, or general approach to the problem, and an appendix in which is a suggested method for the analysis of economic statistics.

Standard Oil Stocks on New York Curb

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

(Complete record week ended July 1)

1933 High	1933 Low	Week ended July 1 Sales	Week ended July 1 High	Week ended July 1 Low	Close July 5	Stocks—		Outstanding capital	Par value	Div. rate	Payable or last paid	1930 High	1930 Low	1931 High	1931 Low	1932 High	1932 Low
13	6	No sales ..	..	..	..	Borne Scrymser		$1,000,000	$25	....	10-15-30	25	11¼	16	6	7	6
39¾	25	200	38	38	..	Buckeye Pipe Line		$10,000,000	$50	75cQ	6-15-33	69	39⅞	56	30	35	17½
115	71	250	114	111	115	Chesebrough Mfg.		$3,000,000	$25	$1Q†	6-29-33	184⅛	104¼	129½	75	90	53
8½	2¼	24,100	8¼	6¾	8⅜	Creole Petroleum	(sh)	6,974,356	$5	....	.....	7⅞	3	3⅞	1⅝	3⅛	1⅝
32	20	450	32	28	..	Eureka Pipe Line		$5,000,000	$100	$1Q	5- 1-33	54¾	26	36	19	35	18
88	40	10,500	86¾	80	84	Humble Oil & Refining		$74,365,725	$25	50cQ	7- 1-33	119	57¼	72	44¼	55	35⅝
14⅝	6½	27,900	14⅛	11½	14¼	Imperial Oil of Canada	(sh)	26,557,496	N.P.	12½cQ	6- 1-33	30	15	18¼	7⅝	10⅞	6¼
8	3⅛	100	6½	6½	..	Indiana Pipe Line		$3,000,000	$10	15cS.A.	5-15-33	41	21¼	21¼	5½	7½	2¾
18⅜	8⅞	40,200	18⅜	17	18⅞	International Petroleum	(sh)	14,247,088	N.P.	28cQ§	6-15-33	24	11⅜	15½	7⅜	12¼	8
10	5½	300	9⅜	9¼	8⅝	National Transit		$6,362,500	$12.50	35cS.A.	6-15-33	22⅜	11½	17½	5	10½	6
6⅛	4¼	1,500	6	5	..	Northern Pipe Line		$1,200,000	$10	25c	7- 1-33	54	26¼	35½	20	5½	3⅛
20⅝	11	3,800	19⅞	18	20½	South Penn Oil		$30,000,000	$25	25cQ	3-31-33	45⅞	16¼	23⅞	9¼	16½	9⅝
6	2¾	No sales ..	..	..	5½	Southern Pipe Line		$1,000,000	$10	10cQ	3- 1-33	20⅞	8⅜	17	7	10	3⅝
34½	24½	50	34½	34½	..	Southwest Pennsylvania Pipe Line		$1,750,000	$50	$1Q	7- 1-33	64	32	42½	25	37	27
32⅝	17	55,600	32¾	30⅝	32¾	Standard Oil of Indiana	(sh)	15,941,895	$25	25cQ	6-15-33	59⅞	30	38½	13½	25⅛	13⅛
17¾	8⅜	9,100	17⅛	16⅛	17¼	Standard Oil of Kentucky		$26,069,830	$10	25cQ	6-15-33	40½	18⅝	23⅝	12½	15⅞	8⅝
17½	11	1,400	16⅜	15½	17⅝	Standard Oil of Nebraska		$4,770,550	$25	25cQ	6-20-33	48⅞	34⅝	36½	16	19	10¼
34¼	15½	6,400	34¼	26⅛	37	Standard Oil of Ohio		$18,811,675	$25	37½cQ	1- 3-33	108½	43¼	62½	23	30⅛	15½
3	1	No sales ..	..	..	..	Swan-Finch Co.	(sh)	34,480	$25	....	1-15-29	10	4	4½	1	2	1⅝

*Ex-dividend. †Unit of trading less than 100 shares. ‡Plus 50 cents extra. §Payable in Canadian funds.

Transactions in Oil Shares on New York Stock Exchange

Quotations Compiled by Francis, Bro. & Co., Members of the New York Stock Exchange and Associate Members of New York Curb, Kennedy Building, Tulsa, Okla

(Complete record week ended July 1)

1933 High	1933 Low	Week ended July 1 Sales	Week ended July 1 High	Week ended July 1 Low	Close July 5	Stocks—		Outstanding capital	Par value	Div. rate	Payable or last paid	1930 High	1930 Low	1931 High	1931 Low	1932 High	1932 Low
40⅞	18½	14,500	40⅞	38	39½	Amerada Corp.	(sh)	774,875	N.P.	50cQ	4-29-33	31½	16½	23	11¼	22⅜	12
28	6¾	140	28	25	27¾	Associated Oil		$34,356,180	$15	25cQ	.....	51	30	31	8¾	16½	6½
30	12⅜	72,000	30	27½	30½	Atlantic Refining		$67,416,050	$25	25cQ	6-15-33	51⅝	16⅝	23⅝	8⅝	21⅞	8⅜
10	3	71,500	10	9	9⅞	Barnsdall Corp. A		$11,293,895	$5	....	5-11-31	34	8⅝	14½	4	7	3⅝
27	9	140,400	26	23¼	25¾	Columbia Gas & El.	(sh)	11,684,220	N.P.	20cQ§	5-15-33	87	30⅝	45⅝	11⅝	21	4¼
12	5¼	200	10¼	9⅝	10½	Colonial Beacon Oil	(sh)	1,444,970	N.P.	....	12-22-22	20⅜	8⅜	10½	7½	12½	9
15¼	5	226,000	15¼	13¾	15¼	Consolidated Oil Corp.	(sh)	14,218,835	N.P.	....	.....	..	..	..	..	9	4
16½	4⅞	146,100	16½	15⅜	17⅜	Continental Oil of Delaware	(sh)	4,738,593	$5	....	12-15-27	30½	7¾	12	5	9⅜	3⅝
41⅝	13¾	40,700	40	35¾	40⅝	General American Transportation		751,638	N.P.	25cQ	1- 2-33	111⅞	53⅛	73⅛	28	35¾	9½
21⅞	4⅝	25,800	21⅞	19⅜	20⅜	General Asphalt	(sh)	413,333	$10	....	6-15-32	71½	22⅝	47	9⅝	15½	4¾
35¼	8¼	20,800	35¼	32	34½	Houston Oil		$24,968,600	$100	....	10-17-30	116⅞	29¼	68½	15¾	28¼	8¾
4½	1⅛	400	3⅞	3½	3⅞	Indian Refining		$12,564,070	$10	....	10- 1-30	17	2	4⅝	1⅛	2¾	1
3⅜	⅝	1,500	3	2½	2¾	Louisiana Oil Refining	(sh)	1,309,069	N.P.	....	.....	12	3½	4½	1	2¼	½
4	½	300	2⅞	2½	2½	Maracaibo Oil	(sh)	330,000	N.P.	....	.....	10⅜	1⅝	3⅜	½	1½	⅜
14⅜	3¾	37,200	14	13	14¾	Mid-Continent Petroleum	(sh)	1,857,912	N.P.	....	2-16-31	32	11	16⅜	5	8⅞	3⅜
28⅝	4	4,800	25½	22½	24½	National Supply of Delaware	(sh)	390,879	$50	....	5-15-31	124¾	60	70¼	5	13	3½
16¼	4⅜	97,700	16¼	15	16⅞	Ohio Oil	(sh)	6,562,005	N.P.	....	12-15-32	32	16	19½	5⅛	11	5
13	8	500	12	11	13	Pan American P. & T.	(sh)	3,416,082	$5	....	3-15-33	46½	42	35⅛	20	14	6
4¼	⅜	2,300	3½	2⅝	3⅛	Panhandle P. & R.	(sh)	198,770	N.P.	....	.....	12¾	1⅜	4¼	⅝	1⅛	¼
10⅞	4⅜	73,000	15⅜	14⅝	16½	Phillips Petroleum	(sh)	4,156,908	N.P.	....	1- 2-31	44⅝	11½	16⅝	4	8⅛	2
1⅞	¼	16,300	1⅜	1¼	1½	Pierce Oil Corp.		$29,622,831	$25	....	.....	2½	½	1½	¼	¾	¼
2¾	⅝	31,200	2⅝	2⅜	2½	Pierce Petroleum	(sh)	2,500,000	N.P.	....	2-16-31	7⅛	1⅛	3⅝	½	1⅝	½
17⅜	6¾	48,500	17¼	15¼	16⅞	Plymouth Oil Co.	(sh)	1,050,000	$5	75cA	.....	..	..	..	..	12½	8½
15½	5⅝	No sales ..	..	..	16½	Prairie Oil & Gas		$61,035,800	$25	....	3-31-31	54	11¼	20⅜	4½	9½	3½
21¾	7	100	21⅛	21⅛	21¾	Prairie Pipe Line		$101,250,000	$25	....	6-30-31	60	16⅝	26½	5⅞	12¼	5½
2⅞	¼	5,800	2½	1⅞	2⅛	Producers & Refiners		$37,438,950	$50	..	9-15-23	11¾	1	6	1	1⅝	⅛
13	3	190	11	10	..	Producers & Refiners pfd.		$2,845,350	$50	....	5- 4-25	40	11½	16	3	9¾	1
9¼	2½	34,300	9⅛	8¼	9¼	Pure Oil		$75,959,250	$25	....	9- 1-30	27¼	7⅝	11⅞	3¼	6½	2⅛
3	¼	42,800	1⅛	⅞	..	Richfield Oil (new)		$52,410,875	N.P.	....	.....	9¾	4⅛	6⅜	⅝	1⅝	¼
32⅜	17⅝	10,800	32⅜	30¼	35½	Royal Dutch Am.	(sh)	611,303	....	80½cf†	8- 5-32	56½	36⅞	42⅝	13	23⅜	12⅛
33½	15	14,200	31½	29	32⅛	Seaboard Oil of Delaware	(sh)	1,204,460	$4	15cQ	6-15-33	37	9¾	20¾	5½	20⅝	6⅝
21	11¼	10	19⅝	19⅝	21	Shell Transport & Trading Co		£23,985,000	£1	53cf	7-22-32	48⅜	26	34	5	16⅜	8
10½	4	143,800	9¾	8⅛	10⅜	Shell Union Oil	(sh)	13,066,497	N.P.	....	6-30-30	25½	5¼	10¼	2½	8⅜	2½
59½	28½	4,000	59½	52	59½	Shell Union Oil pfd.	(sh)	400,000	$100	....	7- 1-31	106¼	55	78	15	65¼	18
12⅜	4⅞	12,300	12	10⅞	11⅛	Simms Petroleum	(sh)	600,000	$20	25cQ	1-16-32	37	5⅝	11	3½	7½	3¼
9⅞	3	3,500	9⅜	9	9¼	Skelly Oil		$27,441,250	$25	....	12-15-30	12	10⅛	12⅞	2	5⅜	2½
42	22	500	41	39	42	Skelly Oil pfd.	(sh)	119,800	$100	....	5- 1-31	99⅜	42	62	10	33½	12
15	6	311,700	14½	12¾	14⅝	Socony-Vacuum		$792,711,738	$25	....	3-15-33	106⅜	98	106	87½	12¾	5¼
102	92½	1,800	100	99	..	Standard Oil Export pfd.	(sh)	764,885	$100	$2.50SA.	12-31-32	..	..	21	8⅝	100½	81
39⅜	19½	64,400	37½	35½	39⅛	Standard Oil of California	(sh)	13,102,900	N.P.	25cQ	6-15-33	75	42½	51¾	23¼	31⅞	15⅛
26¼	12⅜	500	22¼	22	22⅛	Standard Oil of Kansas		$8,000,000	$25	....	3-16-31	49	14⅜	19	7⅜	16½	7
40⅛	22¾	119,800	39¾	36¾	39½	Standard Oil of New Jersey		$637,961,700	$25	50cSA	6-15-33	84⅞	32½	52½	26	37⅜	19⅞
45⅝	35	2,000	45¼	44	44½	Sun Oil	(sh)	1,531,422	N.P.	25cQ	6-15-33	70	39	45¼	26¾	39⅞	24⅝
3⅜	¾	11,300	3¼	2⅜	2⅞	Superior Oil Corp.	(sh)	776,979	N.P.	....	12-20-30	9⅜	¾	1⅜	¼	2	⅛
26¾	10¾	86,300	24⅞	23¼	26⅜	The Texas Corporation		$246,204,900	$25	25cQ	7- 1-33	60½	28¼	36¼	9⅞	18¼	9¼
6½	1⅜	6,800	5⅝	5¼	5⅝	Texas Pacific Coal & Oil Co.		$9,304,890	$10	....	12-31-29	14½	4	6½	1⅞	4	1½
16	9¼	No sales ..	..	..	..	Tide Water Oil	(sh)	2,190,323	N.P.	....	12-31-32	31	13	18	9⅞	10	5
67	45	400	67	66	..	Tide Water Oil pfd.	(sh)	199,446	N.P.	....	2-15-33	94⅞	71	83	30	62	30
10½	3⅛	80,500	10	8¾	10	Tide Water Associated	(sh)	5,611,100	N.P.	....	2-16-31	17¾	5⅞	9	2⅛	5⅝	2
55	23½	4,900	52¼	47	54	Tide Water Associated pfd.		$73,284,500	....	....	1- 1-33	89¾	55	68	20½	60	20
22⅜	8½	44,900	21	19¾	21½	Union Oil of California		$109,651,750	$25	25cQ	5-10-33	50	10⅛	26⅝	11	15⅝	8
22¾	10½	6,900	22¼	19⅜	21⅝	Union Tank Car	(sh)	1,254,048	N.P.	30cQ	6- 1-33	38½	23	25⅛	16	19¼	11⅝
4⅞	⅜	9,000	3⅞	3¼	3⅞	Warner-Quinlan	(sh)	632,948	N.P.	....	7- 1-30	27	4¼	7⅜	⅜	2¼	½
5½	2	4,300	5	4½	4⅞	Wilcox Oil & Gas	(sh)	428,967	$5	...	5-10-28	21	6½	9⅜	2¾	8⅝	2¾

*Ex-dividend. †Interim dividend for 1931. §Payable in 5% convertible preferred stock. A—Paid this year; no regular rate.
In comparing highs and lows for the several years in the three tables, it will be necessary to take into consideration cases where there have been stock split-ups.

Oklahoma-Kansas and Eastern Monthly Pipe Line Report

OKLAHOMA-KANSAS PIPE LINE STATEMENT FOR APRIL

Runs

Company—	Month (bbls.)	Dly. av. (bbls.)
Gulf P. L. Co.	1,330,188	44,340
Texas P. L. Co.	578,968	19,299
Empire P. L. Co.	1,805,728	60,191
Magnolia P. L. Co.	1,027,826	34,261
Cosden P. L. Co.	673,511	22,450
Stanolind P. L. Co.	2,310,000	77,000
Oklahoma P. L. Co.	1,765,967	58,866
Other lines	6,060,000	202,000
Total April	15,552,198	518,407
Total March	19,303,336	622,689
Difference	3,751,138	104,282

Shipments

Gulf P. L. Co.	1,310,740	43,691
Texas P. L. Co.	1,051,337	35,045
Empire P. L. Co.	2,332,731	77,758
Magnolia P. L. Co.	1,274,266	42,476
Cosden P. L. Co.	826,502	27,550
Stanolind P. L. Co.	3,453,030	115,101
Oklahoma P. L. Co.	1,882,898	62,763
Other lines	6,060,000	202,000
Total April	18,191,505	606,384
Total March	18,006,857	580,875
Difference	184,648	25,509

Stocks

Sinclair Prairie Oil Mktg. Co.*	31,597,806
Gulf P. L. and Gypsy Oil Co.	6,671,990
The Texas Co.	2,335,749
Empire P. L. Co.	4,342,958
Mid-Continent Pet. Corp.	2,171,968
Stanolind Crude Oil Pur. Co.*	14,143,007
Magnolia Pet. Co.	7,123,855
Oklahoma P. L. Co.	921,959
Carter Oil Co.	3,144,365
Other lines	20,134,946
Total April	92,587,390
Total March	94,687,206
Difference	2,099,816

*Estimated. Stanolind Pipe Line Co. shipments include Texas crude oil.

EASTERN PIPE LINE REPORT FOR MONTH OF MAY

Runs from Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky, Illinois, Indiana and Michigan for April and May:

	April	May
Nat. Transit	211,968.31	243,156.35
S. W. Pa. P. L.	57,937.11	62,644.24
Eureka P. L.	229,099.17	250,116.77
Buckeye P. L. (Macksburg)	210,696.23	220,297.83
Buckeye P. L. (Cleveland)	8,917.12	8,920.91
Buckeye P. L. (Lima, etc.)	66,363.06	64,532.08
Indiana P. L.	857.13	895.60
Stoll Oil Ref.	25,334.00	26,420.09
Bradford Tran.	368,734.05	397,098.78
N. Y. Transit	30,031.75	35,965.35
Tide Water P. L.	22,314.92	24,799.31
Pure Oil	363,239.38	428,736.97
Daugherty Ref.	615.06	577.00
Valvoline Pipe	65,518.13	71,447.26
Other companies	192,905.21	208,019.63
Total	1,854,360.97	2,038,428.13
Daily average	61,812.03	65,755.75

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for April and May:

	April	May
Nat. Transit	468,581.95	545,116.94
S. W. Pa. P. L.	434,954.73	451,255.97
Eureka P. L.	263,721.08	253,424.60
Buckeye P. L. (Macksburg)	249,318.30	253,368.25
Buckeye P. L. (Cleveland)	1,705.98	1,462.82
Buckeye P. L. (Lima, etc.)	1,249,037.31	1,579,982.98
Indiana P. L.	911,477.83	951,287.63
Bradford Tran.	364,634.24	385,472.09
Southern P. L.	39,986.87	40,802.96
Tuscarora	252,182.53	283,673.40
N. Y. Transit	171,288.27	178,587.66
Northern P. L.	1,721.42	151,384.40
Tide Water P. L.	466,154.36	493,837.03
Pure Oil	399,495.66	433,795.19
Valvoline	37,339.23	29,600.21
Other companies	157,306.97	156,272.19
Total	5,458,211.23	6,189,824.32
Daily average	181,940.37	199,671.75

Gross Stocks

The gross stocks held by various pipe lines in the oil-producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of April and May:

	April	May
Nat. Transit	549,108.30	551,334.51
S. W. Pa. P. L.	385,083.20	391,998.84
Eureka P. L.	974,870.20	927,532.86
Buckeye P. L. (Macksburg)	303,283.30	293,102.34
Buckeye P. L. (Cleveland)	33,566.97	33,384.45
Buckeye P. L. (Lima, etc.)	2,338,931.20	2,222,702.46
Indiana P. L.	479,650.48	506,374.87
Bradford Transit	320,670.17	340,988.78
Southern P. L.	150,969.60	125,143.61
Tuscarora	8,848.30	8,200.38
N. Y. Transit	66,099.74	65,713.73
Northern P. L.	214,332.56	257,612.40
Tide Water P. L.	693,343.53	762,341.31
Pure Oil	194,939.65	242,858.14
Valvoline Pipe	142,412.34	149,094.44
Other companies	136,438.22	137,698.51
Total	7,212,548.76	7,016,621.63
Decrease	67,294.98	195,927.13

Grades of Oil

The following table shows the amount of the different grades of oil held by the Eastern pipe lines at the close of April and May, showing gross stocks of the above fields:

	April	May
Pennsylvania	3,077,945.46	2,900,035.64
Lima	422,108.95	424,603.63
Kentucky	299.42	299.42
Mid-Continent	3,597,421.66	3,528,298.05
Illinois	2,098.22	13,806.54
Michigan	112,675.05	149,578.35
Total	7,212,548.76	7,106,621.63

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1930	1931	1932	1933
Jan.	75,907	53,939	53,501	64,493
Feb.	79,256	55,163	55,498	58,140
Mar.	76,688	54,331	57,199	59,417
Apr.	84,536	54,914	57,348	61,812
May	70,546	52,344	59,105	65,755
June	75,430	54,110	64,371	.....
July	68,921	50,723	63,402	.....
Aug.	54,291	51,503	67,676	.....
Sept.	56,595	61,345	65,423	.....
Oct.	53,179	65,595	65,960	.....
Nov.	52,332	59,819	60,602	.....
Dec.	53,999	61,835	57,401	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1930	1931	1932	1933
Jan.	217,623	175,269	186,551	198,996
Feb.	224,355	183,494	169,856	187,928
Mar.	228,846	189,503	188,793	183,632
Apr.	241,845	191,450	202,836	181,940
May	248,383	199,247	201,404	199,671
June	234,401	221,155	201,632	.....
July	207,094	211,632	202,859	.....
Aug.	205,506	224,166	187,839	.....
Sept.	193,999	217,537	170,524	.....
Oct.	157,675	210,331	188,504	.....
Nov.	146,638	196,425	189,626	.....
Dec.	143,001	176,201	186,135	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines at the close of each month for the past three years:

	1931	1932	1933
Jan.	11,831,092	9,023,914	7,608,270
Feb.	11,506,489	8,974,350	7,302,746
Mar.	11,012,162	8,802,192	7,279,343
April	11,044,481	8,908,461	7,212,548
May	10,728,239	8,835,726	7,016,621
June	9,901,349	8,732,724	.....
July	9,569,849	8,176,956	.....
Aug.	9,192,457	8,128,576	.....
Sept.	8,492,431	7,895,421	.....
Oct.	8,417,694	7,421,620	.....
Nov.	8,330,386	7,116,200	.....
Dec.	9,119,032	7,139,420	.....

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, June 1	505,344.51
Runs from wells	337,102.07
Other receipts	13,493.40
Regular deliveries	321,287.82
Other deliveries	39,949.69

The amount of Illinois oil run by the Tide Water Pipe Co. in May was 24,799.31 bbls. Deliveries were 13,132.56 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

1933—	Runs	Deliveries
May	361,901.38	334,420.38
1932—		
January	500,177.12	246,634.10
February	432,561.50	186,010.30
March	565,538.70	270,617.75
April	461,920.92	285,817.98
May	521,884.64	279,859.38
June	501,878.26	263,703.70
July	466,635.89	284,537.18
August	476,095.53	307,325.89
September	436,529.00	329,394.39
October	332,680.67	352,620.24
November	346,880.27	338,351.23
December	336,072.57	317,749.63
1933—		
January	344,054.84	314,108.93
February	306,520.61	294,340.35
March	385,665.57	314,514.48
April	311,146.72	356,455.50

Tide Water Pipe Co., Ltd., also delivered in May 92,995.63 bbls. Oklahoma oil.

Average Daily Imports of Crude and Refined Oil at Principal United States Ports

Average barrels per day in 1932-33—	Atlantic Ports: Baltimore	Boston	New York	Philadelphia	Others	Total	Gulf Coast Ports: Galveston	New Orleans, Baton Rouge	Port Arthur, Sabine Pass	Tampa	Total	Total all ports
June	26,900	11,700	135,300	32,733	29,900	294,533	.....	.....	12,867	.....	12,867	307,400
July	2,613	2,161	62,968	14,935	2,129	84,806	.....	.....	.....	.....	.....	84,806
August	3,323	2,161	72,678	25,613	2,098	105,871	.....	.....	.....	.....	.....	105,871
September	5,100	2,200	57,900	13,167	10,066	87,433	.....	.....	.....	.....	.....	87,433
October	14,023	.....	72,193	10,645	7,139	124,000	.....	.....	.....	.....	2,000	126,000
November	14,167	.....	49,867	19,233	5,900	92,267	.....	.....	.....	.....	2,133	94,400
December	14,258	2,065	84,323	28,162	9,256	138,064	.....	.....	.....	.....	5,226	143,290
January	7,644	4,355	64,194	25,710	6,613	108,516	.....	.....	.....	.....	548	109,064
February	7,682	4,789	120,490	12,610	10,823	156,393	.....	.....	.....	.....	2,357	158,750
March	7,710	4,290	101,258	36,292	16,000	165,290	.....	.....	.....	.....	.....	165,290
April	10,000	6,700	73,433	32,267	9,967	132,367	.....	.....	.....	.....	.....	132,367
May	4,258	2,194	62,484	22,548	3,355	94,339	.....	.....	.....	.....	4,355	99,194

Average Daily Receipts of California Crude and Refined Oil at Atlantic and Gulf Ports

Average barrels per day in 1932-33—	Atlantic Ports: Baltimore	Boston	New York	Philadelphia	Others	Total	Gulf Coast Ports: Galveston	New Orleans, Baton Rouge	Port Arthur, Sabine Pass	Tampa	Total	Total all ports
June	2,500	.....	17,333	3,933	833	24,600	.....	.....	.....	.....	.....	24,600
July	2,323	.....	22,226	8,677	8,935	42,161	.....	.....	.....	.....	.....	42,161
August	4,452	.....	22,484	7,548	7,677	42,161	.....	.....	.....	.....	.....	42,161
September	2,900	.....	5,000	11,633	7,967	27,500	.....	.....	.....	.....	.....	27,500
October	2,287	1,226	14,453	9,355	9,193	36,613	.....	.....	.....	.....	.....	36,613
November	4,667	.....	21,700	7,767	2,366	36,500	.....	.....	.....	.....	.....	36,500
December	4,129	.....	15,678	5,322	8,226	33,355	.....	.....	.....	.....	4,903	38,258
January	968	1,484	20,903	3,742	18,064	45,161	.....	.....	.....	.....	.....	45,161
February	9,106	1,643	14,250	10,965	11,500	47,464	.....	.....	.....	.....	2,643	50,107
March	5,065	.....	16,516	9,968	13,935	45,484	.....	.....	.....	.....	7,484	52,968
April	6,000	.....	14,500	7,733	4,934	33,167	.....	.....	.....	.....	4,900	38,067
May	4,194	.....	15,255	14,293	5,871	39,613	.....	.....	.....	.....	4,452	44,065

Gross Production of Crude Oil in the United States for 12 Months

(In barrels of 42 gallons)

1932-33—		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mts.	Eastern	Total
April:	Month	15,534,444	12,718,020	36,362,851	2,974,080	1,045,620	1,858,957	2,525,040	3,766,000	66,775,012
	Daily average	517,481	423,934	878,762	99,136	34,954	61,965	84,168	125,533	2,225,934
May:	Month	15,575,741	13,169,420	37,328,472	3,038,930	1,064,602	2,012,701	2,600,683	3,891,000	68,681,549
	Daily average	502,443	424,820	881,564	98,030	34,342	64,926	83,893	125,516	2,215,584
June:	Month	14,118,970	12,757,320	36,161,092	2,837,179	1,022,970	1,867,433	2,416,680	3,577,000	64,748,554
	Daily average	470,632	425,241	872,036	94,573	34,099	61,914	80,556	119,233	2,158,285
July:	Month	14,627,550	13,030,571	36,946,714	3,906,808	1,060,386	1,933,757	2,554,648	3,723,000	66,783,434
	Daily average	471,856	420,341	869,348	93,768	34,206	62,379	82,408	120,097	2,154,304
August:	Month	14,839,951	13,743,666	26,924,959	3,046,959	1,062,897	1,870,764	2,413,536	3,873,000	66,776,734
	Daily average	478,708	411,036	868,547	98,289	34,287	60,347	77,856	124,935	2,154,055
September:	Month	14,351,140	11,705,240	27,366,515	2,970,750	1,019,250	1,929,161	2,289,390	3,613,000	65,243,396
	Daily average	478,371	390,176	912,217	99,024	33,975	64,305	76,310	120,433	2,174,980
October:	Month	14,637,663	11,915,811	27,313,833	2,892,486	1,019,931	1,963,063	2,354,444	3,814,000	65,701,230
	Daily average	471,860	384,381	877,866	93,306	32,901	63,325	75,784	123,033	2,119,394
November:	Month	14,142,389	11,340,930	26,155,652	2,841,780	1,020,600	1,962,943	2,169,625	3,578,000	63,211,979
	Daily average	471,413	378,031	871,855	94,726	34,020	65,431	72,322	119,267	2,107,066
December:	Month	14,596,028	11,637,171	23,487,318	2,777,879	1,037,539	1,966,481	2,067,855	3,694,000	61,263,770
	Daily average	470,807	375,393	757,672	89,609	33,469	63,435	66,705	119,161	1,976,251
January:	Month	14,460,283	12,482,111	26,115,932	2,871,282	993,457	2,021,117	2,241,610	3,112,000	64,298,791
	Daily average	466,462	402,681	842,449	92,622	32,047	65,197	72,310	100,387	2,074,155
February:	Month	13,107,043	12,804,283	25,092,383	2,901,512	880,208	1,793,443	2,096,612	2,747,000	61,322,489
	Daily average	468,109	457,296	896,156	100,054	31,436	64,051	74,879	98,107	2,190,089
March:	Month	13,414,980	15,698,896	24,242,454	3,604,639	943,702	2,070,995	2,371,469	3,118,000	75,465,035
	Daily average	432,741	506,416	1,104,595	116,276	30,442	66,806	76,499	100,581	2,434,356
Total 12 months		173,385,181	152,004,394	323,393,668	35,564,184	12,174,162	23,240,815	28,001,562	42,511,000	790,279,965

CLASSIFIED ADVERTISING

Classified Rates

The rates for Classified Advertisements are 35 cents a line for the first insertion and 25 cents a line for each additional insertion. The following table will enable you to figure the cost of your advertisement:

	1 time	2 times	3 times	4 times
3 lines ..	$1.05	$1.80	$2.55	$3.30
4 lines ..	1.40	2.40	3.40	4.40
5 lines ..	1.75	3.00	4.25	5.50
6 lines ..	2.10	3.60	5.10	6.60
7 lines ..	2.45	4.20	5.95	7.70
8 lines ..	2.80	4.80	6.80	8.80
9 lines ..	3.15	5.40	7.65	9.90
10 lines ..	3.50	6.00	8.50	11.00

For rates on Classified DISPLAY see opposite column.

Six words usually constitute a line.

Compute white space at the above rates.

Mail your Classified Advertisement to

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma.

For Sale—Equipment

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air Compressor. Six-inch Oster Pipe Threading Machine. Also, large stock of lathes, pipe machines, milling machines, etc. Send for our list. Terms to suit.
CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St. Cincinnati, Ohio.

14 MILES USED 4-INCH LINE PIPE
Made of plain end marine boiler tubes. 18-ft. lengths, welded. Will cut 40-ft. lengths beveled ready to weld. Excellent pipe, used only short while. All or part offered at very attractive price. Now located Pryor, Okla. Phone or wire—collect—for details.
THE BRIDGEPORT MACHINE CO.
Wichita, Kans.

EQUIPMENT FOR SALE—15½", 12½" and 10" casing. 2" tubing and line pipe. Rods. Standard drilling rigs. 5⅜" and 6⅝" high pressure gates. Write Aeques Oil Co., P.O. Box 638, Cushing, Okla. Phone 852.

USED EQUIPMENT is bringing better prices now than in years, as there is so little available to meet the rising demand. If you have used equipment in good condition, now is the time to let buyers know of it. A small advertisement in these columns will cost very little and is most certain to reach prospective buyers.

55,000 OR 66,000-BBL. TANKS
Will move and re-erect on your grade one or more steel roof storage tanks, practically new, anywhere in United States at great saving. If you have crude oil, fuel oil, gas oil or gasoline we can build the storage.
SONKEN-GALAMBA CORPORATION
64 North Second St., Kansas City, Kans.

BARGAINS—Demonstrator Arc Welders, Guaranteed. Electric, Gasoline Engine, Belted—All with "Simplified" control. 30 Days' Trial, Terms. Hobart Bros., Used Equipment Division, Box 0G-73, Troy, Ohio.

Equipment Wanted

WANTED—Gas engine generator sets 100 to 150 K.W. 440 volts A.C. Furnish complete description, location and price. Address Box F-692, The Oil and Gas Journal, Tulsa, Okla.

WANTED—Natural gas Compressors 165 H.P. to 450 H.P. Give make, size, size compression cylinders, location, price and condition. Address Box F-691, The Oil and Gas Journal, Tulsa, Okla.

Business Opportunities

TOPPING PLANTS—Engineer will design, build, operate or furnish plans, specifications. Box 1781, Tulsa, Okla.

Patent Attorneys

REGISTERED PATENT ATTORNEYS
United States and Canada
Before disclosing your invention to anyone, send for blank form:
"Evidence of Conception,"
Instructions "How to Establish Your Rights" and complete information FREE!
LANCASTER, ALLWINE & ROMMEL
418 Bowen Building,
Washington, D. C.

Oil Industry Printing

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

Royalties—Production

ROYALTIES CAREFULLY SELECTED
Oklahoma — Kansas — Texas
G. D. TERRIEN
Philcade Building, Tulsa, Okla.

JAMES B. McANALLY

Hunt Building, Tulsa, Oklahoma.

An organization backed by twenty years' practical oil experience, supplying well selected royalties to dealers only, who are interested in building satisfied clienteles.

LONGEST PROFITS are in new oil fields. Perpetual royalty under undrilled major company lease blocks $4 per square mile. R. R. Fisk, Box 395-B, Wichita Falls, Tex.

PRODUCING OIL ROYALTIES
Bought and Sold.
Inquiries invited from Oil Companies, Bankers, Dealers.
DAVID R. MITCHELL & CO.,
Established 1916.
20 BROAD ST. NEW YORK.

HIGH GRADE producing oil and gas royalties offered to dealers. Billie Smallwood. P. O. Box 2261, Tulsa, Okla.

BROKERS—If you want wholesale prices on well located oil leases and deeded royalties in Texas titles guaranteed, write A. C. Smith, P.O. Box 927, Houston, Texas.

ROYALTIES for dealers, producing, nonproducing Oklahoma, Kansas, Texas, Louisiana. Lowest prices and highest quality. James R. Haynes, Grantville, Kans.

ROYALTIES in new North Cut Bank Oil Field, Montana, $62.50 acre base. Landowner, Box 1225, Great Falls, Mont.

AM IN the market for producing royalties, Kansas, Oklahoma and Texas. Prices must be right. Churchill Gahn, Box 1292, Amarillo, Texas.

Royalties—Production

BETTER CLASS
MONTHLY INCOME ROYALTIES
W. E. Cook, Court Arcade, Tulsa, Okla.

ROYALTIES FOR INVESTMENT
Andrew J. Barrett,
Suite 1903, The Philtower,
Tulsa, Okla.

ROYALTY DEALERS

BE SAFE!—Get an unbiased report on royalties before buying—ask about our service.
ROYALTY ENGINEERS, INC.
Philcade Building, Tulsa, Okla.

PRODUCING OIL ROYALTIES
in Fractional deeds from $100 up.
John L. Dickson, Box 1113, Tulsa, Okla.

CHOICE INCOME OIL ROYALTIES. Kansas and Oklahoma, for investors and dealers. J. L. HANER, 105 McKibban Bldg., Muskogee, Okla.

ROYALTY OWNERS
Present low oil prices are most favorable for royalty investments. Our twenty years' oil experience assures you of careful and intelligent selection.
Weekly oil report sent free on request.
G. A. SIMON
Exchange Bank Building, Tulsa, Okla.

SELECTING OIL ROYALTIES
for dealers a specialty.
Kansas-Oklahoma City-Seminole.
Chester Imes,
First National Bank Building,
Oklahoma City, Okla.

ROYALTIES
Kansas—Oklahoma—Texas
Always handle the best.
TULSA, OKLAHOMA
217 Cole Building
L. H. Witwer.

PERPETUAL DEEDED ROYALTIES
Your selection of over 400,000 acres. Some major company blocks. H. H. White, Box 674, San Antonio, Tex.

APPRAISALS & REPORTS
ON OIL, GAS & ROYALTY PROPERTIES BY—F. W. FREEBORN ENGINEERING CORP. 20 Years Mid-Continent Fields.
Alexander Bldg., Tulsa, Okla.
Phone 4-6938.

Leases—Production

NEW MEXICO Oil and Gas Leases and royalties. Send 50 cents in stamps for new State Oil Map of New Mexico. Roy G. Barton, Clovis, New Mexico.

OIL AND GAS Leases in Rusk, Lavaca, Atascosa and other counties. Large and small tracts at reasonable prices. H. H. White, San Antonio, Tex.

HAVE few attractive leases and royalty near petroleum southwestern well which will be brought in this week, Carlos Dome, Grimes County, Texas. Phone or wire. Nelson Waters, Navasota, Tex.

EVERY MAN dealing in Texas leases and royalties should get quotations, maps and prices here. Dealers' territory protected. W. J. Dobbs, 915 Tower Pet. Bldg., Dallas, Tex.

FOR SALE—Oil and Gas Lease on SW/4 and W/2 SE/4 of Section 64 (La Chuse Ranch), McMullen County, Texas. For particulars write to The Farmers State Bank, Albert, Kansas.

GAS WELLS for gasoline plant. Might be sold on royalty or cash basis. One, five thousand acre lease. Big money for the buyer. Jno. P. Mathis, Box 1106, Amarillo, Texas.

LEASE BARGAIN, Sec. 24, Block 1, Caldwell County, near Dale. Water for drilling on this acreage. R. E. Goode, Box 206, Luling, Texas.

FOR SALE—Oil and Gas production, also leases in proven and unproven territory, Anderson County, Kansas, shallow field. Great opportunity, don't write, but COME. W. L. Morris Loan Company, Garnett, Kansas.

Display Rates

The rate for Classified Display Advertising set in similar style to this Ad or in two-Column style is as follows for each insertion:

1 inch ..... 1 time $5.00
1 inch ..... 13 times 4.50
1 inch ..... 26 times 4.00
1 inch ..... 52 times 3.50

Rates for Classified without display shown on opposite column.

One point borders and ten point capitals are allowed, larger type not accepted.

Changes in copy must be in our office 10 days in advance of publication date.

Mail your advertisement to the Largest Classified Section in the Oil Industry.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma.

Financing

INQUIRIES solicited — Corporations desiring capital through securities issue.
BROOKWORTH,
110 East 42d St., New York City.

JAMES E. MILLER CO., 207½ E. Third St., Tulsa, Okla., will co-operate with responsible parties seeking aid in financing projects of higher order.

FINANCING
Corporations requiring capital for promotion or expansion are invited to communicate with the undersigned.
WILLIAM R. THURSTON,
33 West 42nd Street New York, N. Y.

Established organization with record of successful accomplishment offers immediate action in financing of sound projects.
HENRY W. BENSON
ASSOCIATES, INC.
92 Liberty Street, New York, N. Y.

Situations Wanted

MANUFACTURER'S REPRESENTATIVE. Established consulting engineer seeks to represent manufacturer of oil field equipment and specialties for East Texas territory. Address Box F-680, The Oil and Gas Journal, Tulsa, Okla.

REFINERY SUPERINTENDENT
Eleven years' experience in the operation, maintenance, construction and design of all modern refining operations. Successful low cost record. Technically trained. Any location considered. References. Address Box F-702, The Oil and Gas Journal, Tulsa, Okla.

Addresses Wanted

INFORMATION DESIRED regarding whereabout of William Adkins, or Atkinson, oil well driller. Address Box F-701, The Oil and Gas Journal, Tulsa, Okla.

Ranches—Farm Lands

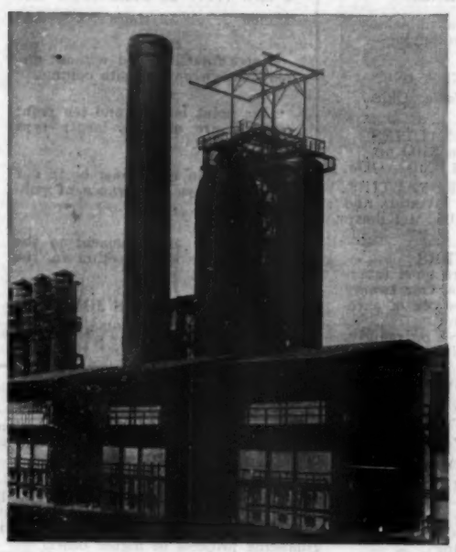
FOR SALE—New Mexico ranch land, including mineral rights at $1 per acre. Royalty well located, under leases held by major oil companies. Drilling blocks in Lea County. Write J. W. Wallrich, Lovington, N. Mex.

Incorporations

CHARTERS—Delaware best, quickest, cheapest, most liberal. Free forms. Colonial Charter Co., Wilmington, Del.

DELAWARE CHARTERS—Fees small, free forms. CHAS. G. GUYER, 901 Market St., Wilmington, Del.

What Gulf has done TO MAKE GULF-LUBE POSSIBLE . . .



Here you see the latest type Atmospheric Vacuum Still, built by Gulf in creating Gulf-lube, the motor oil that gives 28½% more miles per quart, according to A.A.A. tests.

1. Constructed the *world's largest* Atmospheric Vacuum stills of the latest and most efficient design.
2. Constructed the *world's largest* de-waxing plants for producing de-waxed low-pour paraffine oils.
3. Constructed the *world's largest* treating plants for removing carbon and other impurities.
4. Constructed the *world's largest* filtering and finishing plants.

GULF-LUBE is the amazing new motor oil that has created new passenger car and motor bus records. In a test conducted under the auspices of the Contest Board of the American Automobile Association, it gave 28½% more miles per quart than the average of three nationally-known oils selling at the same price.

In another test—a 465-mile run from New York to Pittsburgh, average driving time 43 miles an hour—a new White City Coach, powered with a 250 H.P. horizontal-type motor, consumed only 1.19 quarts of Gulf-lube, an amazingly low figure.

We give you all these facts—to show what the Gulf Refining Company does to create the finest possible 25c motor oil—to give you an idea of the care which Gulf always exercises to guarantee that its products—automotive and industrial—are uniformly high in quality.

Any questions which you may have will be gladly answered.

GULF

GULF REFINING COMPANY

PITTSBURGH, PA.

District Sales Offices:
Boston New York Philadelphia Atlanta New Orleans
Houston Pittsburgh Louisville Toledo

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